

Final Environmental Assessment— SWA Lithium LLC South West Arkansas Project (DOE/EA-2304)



U.S. DEPARTMENT
of **ENERGY**



**NATIONAL
ENERGY
TECHNOLOGY
LABORATORY**

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Office in the Office of Critical Minerals
and Energy Innovation - Funding
Opportunity Announcement DE-FOA-
0003099



National Environmental Policy Act (NEPA) Compliance Cover Sheet

Proposed Project and DOE's Proposed Action:

SWA Lithium LLC (SWA Lithium) proposes a project to extract brine from the Smackover Formation via brine production wells at a rate of up to 200,000 barrels per day, extract lithium from the brine, convert it to a saleable battery-quality lithium carbonate product, and reinject the effluent brine back into the Smackover Formation for pressure maintenance via new brine injection wells. The Proposed SWA Project would produce a nominal 22,500 metric tons per annum of battery-quality lithium carbonate over a 20-year operating life. The components of the Proposed SWA Project would include a Central Processing Facility (CPF), along with a wellfield encompassing five well pads, brine production and injection wells, brine gathering and distribution pipelines, a sour gas disposal pipeline, power distribution lines, and access roads.

If approved, the Department of Energy's (DOE) Proposed Action would provide \$225 million in funding toward the CPF. Although DOE's Proposed Action would only provide funding towards the CPF, the construction and operation of the wellfield will be analyzed because construction and operation of the wellfield is a reasonably foreseeable effect and critical component resulting from DOE's Proposed Action.

Type of Statement: Final Environmental Assessment (Final EA)

Lead Agency: U.S. Department of Energy; National Energy Technology Laboratory (NETL)

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Public Participation: The Draft EA was released for public review and comment **with an invitation** to provide oral, written, or e-mailed comments on the Draft EA to DOE by the close of the comment period on 9 April 2026. Copies of the Draft EA were also distributed to applicable federal and state agencies and Tribal Nations, and a hard copy of the Draft EA was made available at the Lewisville County Library in Lewisville, AR. **Within this Final EA, bolded text (except for chapter and section headings) indicates verbiage or punctuation that was revised following the publication of the Draft EA to easily identify revised material.** This Final EA is available on the NETL NEPA EA website at <https://netl.doe.gov/node/6939> and the DOE NEPA EA website at <https://www.energy.gov/nepa/doe-environmental-assessments>.

Comments Received: Comments were received during the public comment period from two members of the public. DOE also received comments from the U.S Army Corps of

Engineers (USACE) Vicksburg District and Arkansas Department of Agriculture’s Natural Resources Division. The U.S Fish and Wildlife Service (USFWS) Arkansas Ecological Services Field Office and United States Environmental Protection Agency (USEPA) confirmed that they did not have comments on the Draft EA. The Osage Nation responded with a request that it receive and review copies of the two cultural resource surveys completed by Switchgrass Archeology in 2025. The Osage Nation subsequently responded with a “No Properties” determination (described further in Chapter 3.14), and the Shawnee Tribe commented that the SWA Project is out of its area of interest. Additional comments were received from the Arkansas Department of Energy and Environment— Division of Environmental Quality, the Division of Arkansas Heritage (DAH), USACE Vicksburg District, the U.S. Fish and Wildlife Service Arkansas Ecological Services Field Office, Arkansas Department of Agriculture’s Natural Resources Division, and the Quapaw Nation as part of consultation prior to issuance of the Draft EA. DOE acknowledges receipt of these comments, and all comments received are included in Appendices B and F and/or addressed throughout this Final EA.

Page Limit Certification: DOE certifies it has considered factors mandated by NEPA, that this Final EA represents DOE’s good-faith effort to prioritize documentation of the most important considerations required by the statute within congressionally mandated page limits (and that this prioritization reflects DOE’s expert judgment), and that considerations addressed briefly or left unaddressed were, in DOE’s judgment, comparatively not of a substantive nature that meaningfully informed the consideration of environmental effects and the resulting decision.

Deadline Certification: DOE certifies that this Final EA represents its good-faith effort to fulfill NEPA’s requirements within the one-year Congressional timeline, that this effort is substantially complete, and in DOE’s expert opinion, the analysis contained herein is adequate to inform and reasonably explain DOE’s final decision regarding the Proposed Action.

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ACRONYMS AND ABBREVIATIONS

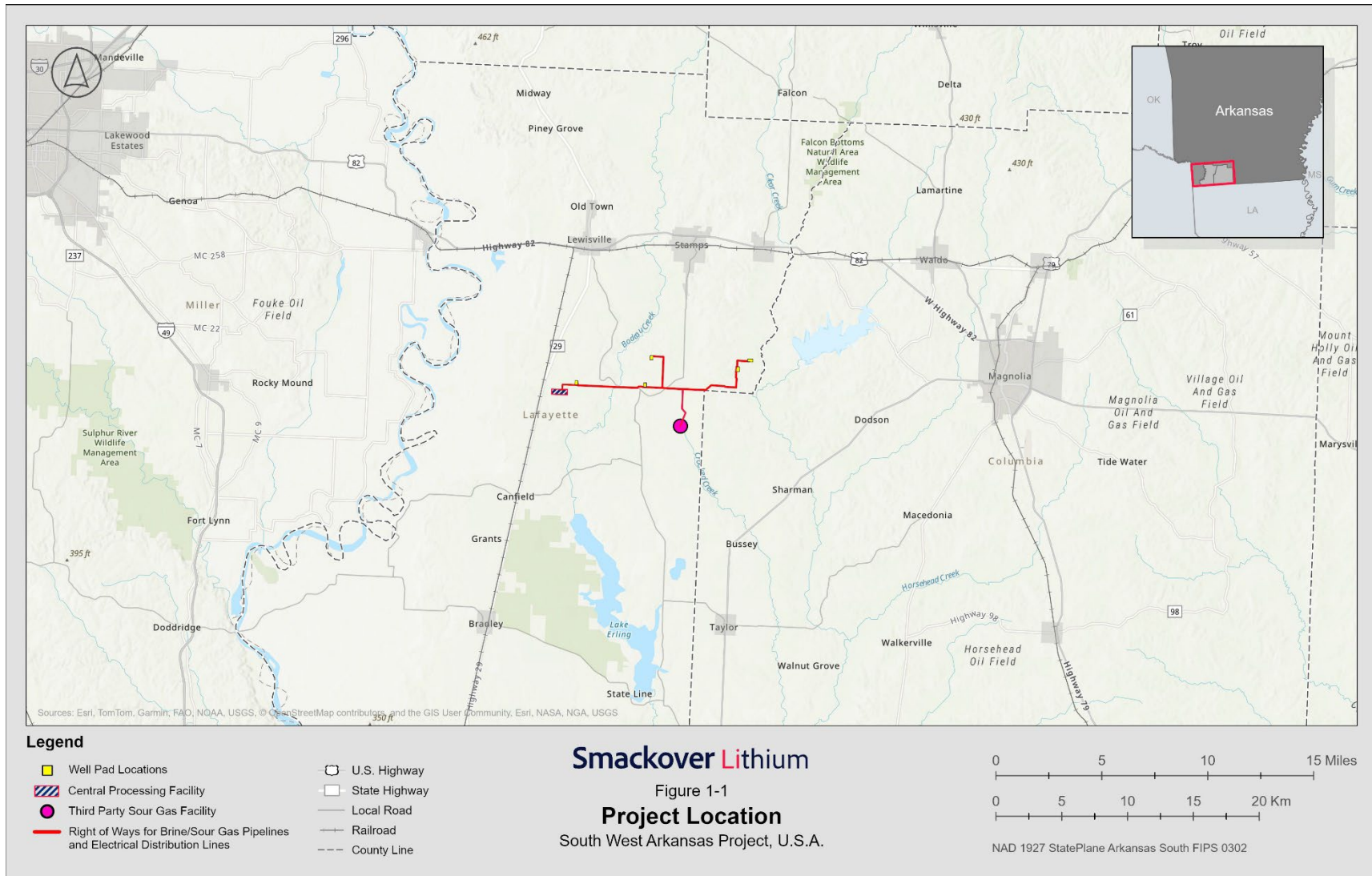
Acronym	Description
ADEQ	Arkansas Department of Environmental Quality
ANHC	Arkansas Natural Heritage Commission
AOGC	Arkansas Oil and Gas Commission
AJD	Approved Jurisdictional Determination
APE	area of potential effects
AR	Arkansas Highway
ARDOT	Arkansas Department of Transportation
BO	Biological Opinion
CFR	Code of Federal Regulations
CGWA	Critical Groundwater Area
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalents
CMEI	Critical Minerals and Energy Innovation
CPF	Central Processing Facility
CR	County Road
CWA	Clean Water Act
DAH	Division of Arkansas Heritage
dBA	A-weighted decibel
DLE	Direct Lithium Extraction
DOE	Department of Energy
EA	Environmental Assessment
FEED	Front-End Engineering Design
FEMA	Federal Emergency Management Act
FOA	Funding Opportunity Announcement
FPPA	Farmland Protection Policy Act
gpm	gallons per minute
H ₂ O ₂	hydrogen peroxide
H ₂ S	hydrogen sulfide
HDD	horizontal directional drilling
IJA	Infrastructure Investment and Jobs Act

Acronym	Description
IPaC	Information for Planning and Consultation
IX	ion exchange
JD	Jurisdictional Determination
km	Kilometer
Ldn	Average noise level over a 24-hour period
Leq	Equivalent Continuous Sound Level
LiCl	lithium chloride
LSS	Lithium Selective Sorption
MBTA	U.S. Migratory Bird Treaty Act
MDO	Manufacturing Deployment Office
MW	megawatts
Na ₂ CO ₃	sodium carbonate
NaOH	sodium hydroxide
NaSH	sodium hydrosulfide
NaCl	sodium chloride
NEPA	National Environmental Policy Act
NETL	National Energy Technology Laboratory
NHPA	National Historic Preservation Act
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise-sensitive area
PM	particulate matter
PM _{2.5}	particulate matter with diameters of 2.5 microns or smaller
PM ₁₀	particulate matter with diameters of 10 microns or smaller
Project site	Smackover Region of Arkansas
PJD	Preliminary Jurisdictional Determination
Proposed SWA Project	Proposed South West Arkansas Project
ROW	right-of-way
SLI	Standard Lithium Ltd.
SO ₂	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
SWA Lithium	SWA Lithium LLC
TCP	traditional cultural properties
THPO	Tribal Historic Preservation Officers
UPRR	Union Pacific Railroad
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Services
WWTP	Waste Water Treatment Plant

1. INTRODUCTION

This **Final** Environmental Assessment (EA) was prepared by the United States (U.S.) Department of Energy (DOE) National Energy Technology Laboratory (NETL) pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, (U.S. Code, Title 42, Section 4321 et. Seq., [42 USC § 4321]) and DOE's NEPA implementing procedures (updated as of **2 February 2026**) to evaluate the potential environmental and social impacts of DOE's Proposed Action to provide cost-shared funding to SWA Lithium LLC (SWA Lithium) for its Proposed South West Arkansas (SWA) Project to support the development of a lithium processing plant in the Smackover region of southwest Arkansas (Figure 1-1). The Proposed SWA Project aims to boost job creation and increase domestic lithium production, an identified critical mineral. SWA Lithium is a joint venture between Standard Lithium Ltd. (SLI), a lithium development company, and Equinor, an international energy company, operating under the joint venture brand of Smackover Lithium. The purpose of this **Final** EA is to evaluate the potential environmental and social impacts of DOE's Proposed Action and the Proposed SWA Project, in addition to the No Action Alternative.

FIGURE 1-1: PROPOSED SWA PROJECT LOCATION



ft = feet; km = kilometers; LA = Louisiana; OK = Oklahoma; U.S. = United States

1.1 BACKGROUND AND PURPOSE AND NEED

SWA Lithium received a grant under the DOE Funding Opportunity Announcement (FOA) DE-FOA-0003099, titled "40207(b) Battery Materials Processing and 40207(c) Battery Manufacturing Grants Round II," which aims to support projects that enhance and strengthen domestic battery manufacturing, critical domestic manufacturing and supply chains, and recycling capabilities. The FOA is managed by DOE's Manufacturing Deployment Office (MDO) in the Office of Critical Minerals and Energy Innovation (CMEI) and is funded by the Infrastructure Investment and Jobs Act. The goals stated in the FOA include expanding U.S. capabilities in advanced battery manufacturing, enhancing national security by reducing reliance on foreign suppliers, ensuring a viable domestic battery supply chain, and ensuring investment in high-quality jobs. The Proposed SWA Project would support these goals by providing a reliable domestic source of battery-quality lithium.

The Proposed SWA Project would extract brine from the Smackover Formation using the same extraction methodology that is currently in use throughout southern Arkansas for the recovery of bromine from Smackover brines. The Proposed SWA Project's Direct Lithium Extraction (DLE) technology is novel compared to traditional lithium production methods from hard rock mining or use of evaporation ponds. Financially supporting the Proposed SWA Project would help meet the demand for domestic critical minerals.

The Proposed SWA Project's Central Processing Facility (CPF), which would recover the lithium from brine and convert it to a lithium carbonate product, is the subject of DOE's Proposed Action. Funding from DOE's grant would only be applied towards the Proposed SWA Project's CPF. Ancillary Proposed SWA Project-related facilities that are not part of the DOE grant or DOE's Proposed Action include brine production and reinjection wells, pipelines, and associated infrastructure such as new or improved access roads. Although these ancillary facilities fall outside of the scope of DOE's Proposed Action (DOE providing cost-shared funding for construction of the CPF), this **Final** EA will analyze the effects of construction and operation of these ancillary facilities, in addition to construction and operation of the CPF, as these ancillary facilities are a reasonably foreseeable effect and critical component resulting from DOE's Proposed Action.

SLI has spent the past several years developing a demonstration plant located approximately 25 miles (40 kilometers) east of the Proposed SWA Project to prove commercial viability of the process and technology to be employed by the Proposed SWA Project. This demonstration plant supports the selection and testing of the equipment expected to be used by SLI's commercial scale projects allowing for optimization of the lithium extraction process and invaluable operating experience which would be applied to the Proposed SWA Project. Required state and local permits and approvals for construction and operation of the Proposed SWA Project would be obtained prior to start of construction or operation, as relevant. The Proposed SWA Project's Front-End Engineering Design (FEED) process was completed in the third quarter of 2025 and detailed design is ongoing.

The CPF location was selected based on several criteria, including limited potential for environmental impacts, prior and current uses of the site, suitable topography, minimal flood risk, access to transportation routes and utilities, and geotechnical suitability. Within the larger parcel footprint of 118 acres, the CPF would be sited to avoid wetlands identified in the eastern portion of the parcel. Based on these screening factors, SWA Lithium identified the subject

parcel as the most suitable for development of the Proposed SWA Project and purchased the parcel.

1.2 SCOPE OF ENVIRONMENTAL ASSESSMENT

In accordance with NEPA, DOE-NETL prepared this **Final** EA to analyze the potential for significant environmental and socioeconomic impacts associated with construction and operation of the CPF on a 118-acre parcel of land in the Smackover region of Arkansas (the Proposed SWA Project site), along with the construction and operation of the ancillary infrastructure (brine injection/extraction wells, well pads, and pipeline infrastructure linking the well pads to the CPF). This **Final** EA allows DOE to consider the environmental impacts of its Proposed Action and the Proposed SWA Project.

DOE reviewed the scope of the Proposed Action and the Proposed SWA Project to identify any resource areas that warrant detailed review in this **Final** EA. In its review, DOE considered the scope of the Proposed Action, the location of the CPF, the ancillary supporting infrastructure, the existing setting, and the permits and approvals necessary for construction and startup of the CPF and supporting infrastructure (see Appendix A). Based on DOE's review, the scope of the resource areas analyzed in detail in this **Final** EA includes:

- Aesthetics and Visual Resources
- Land Use
- Air Quality and Emissions
- Noise
- Geology and Soils
- Groundwater
- Surface Waters, Wetlands, and Floodplains
- Vegetation and Wildlife
- Regulated Waste (solid and hazardous waste)
- Utilities and Energy Use
- Transportation and Traffic
- Public and Occupational Health and Safety
- Socioeconomics
- Cultural Resources

Because the above resource areas could be affected by the Proposed SWA Project, each was assessed to identify the nature, extent, and significance of those impacts (Chapters 3 and 4). Two additional resource areas (Community Services and Parks and Recreation) were considered for detailed analysis during the EA scoping period but ultimately were dismissed from detailed analysis. These were dismissed due to the unlikelihood of impacts to these resource areas resulting from DOE's Proposed Action and the Proposed SWA Project. These two dismissed resource areas will be briefly discussed in Chapter 3, but otherwise will not be addressed further in this **Final** EA. This **Final** EA combined desktop research and analysis of existing available information with select field studies related to the scope of this Proposed SWA Project.

1.3 NATIONAL ENVIRONMENTAL POLICY ACT AND PUBLIC INVOLVEMENT

This **Final** EA was prepared in accordance with NEPA, as amended (42 USC § 4321) and DOE's implementing procedures for compliance with NEPA. The **NEPA process** allows for public input into the federal decision-making process, provides federal decision-makers with an understanding of the potential environmental effects of their decisions before making these decisions (in this case, whether or not to provide cost-shared funding for the Proposed SWA Project), and documents the NEPA process.

2. DESCRIPTION OF DOE'S PROPOSED ACTION AND THE PROPOSED SWA PROJECT

This **Final** EA considers two alternatives: the No Action Alternative and the Proposed Action. The No Action Alternative reflects conditions without the Proposed Action and serves as a basis of comparison for determining the potential effects of implementing the Proposed Action (Section 2.7.1).

The Proposed Action is DOE's ongoing provision of federal funding to SWA Lithium under DE-FOA-0003099 to support construction of the CPF for the Proposed SWA Project. Under the No Action Alternative, DOE would decide not to further fund the Proposed SWA Project. Without DOE funding, the Proposed SWA Project would be less likely to proceed but could potentially proceed with a delayed timeline if alternative funding could be obtained. For the purposes of this analysis and to establish a baseline of existing environmental conditions, the Proposed SWA Project will be assumed not to occur under the No Action Alternative.

The components of the Proposed SWA Project analyzed in this **Final** EA are depicted on Figure 2-1 and described below in terms of how they relate to the Proposed Action:

1. The Proposed SWA Project components that are the subject of the Proposed Action: the CPF and associated infrastructure (e.g., power and access roads) occurring within the CPF site; and
2. Other Proposed SWA Project components that are required for the Proposed SWA Project but are not part of the Proposed Action: Wellfield (including five well pads, brine production wells and brine injection wells, brine gathering and distribution pipelines, sour gas disposal pipeline) and wellfield associated infrastructure (e.g., power distribution lines and access roads for the five pads). As described in Chapter 1, although these other components of the Proposed SWA Project fall outside of the scope of DOE's Proposed Action, this **Final** EA analyzes the effects of construction and operation of these components, in addition to construction and operation of the CPF, as these other components of the Proposed SWA Project are a reasonably foreseeable effect and a critical, interconnected component of DOE's Proposed Action and SWA Lithium's overall Proposed SWA Project.

FIGURE 2-1: PROPOSED SWA PROJECT COMPONENTS



2.1 PROPOSED SWA PROJECT DESCRIPTION

2.1.1 PROPOSED SWA PROJECT OVERVIEW

The Proposed SWA Project would extract brine from the Smackover Formation via brine production wells at a rate of up to 200,000 barrels per day, extract lithium from the brine, convert it to a saleable battery-quality lithium carbonate product, and reinject the effluent brine back into the Smackover Formation for pressure maintenance via new brine injection wells. The Proposed SWA Project would produce a nominal 22,500 metric tons per year of battery-quality lithium carbonate over a 20-year operating life.

2.1.2 PROPOSED SWA PROJECT LOCATION AND LAND REQUIREMENTS

The CPF site is located in Lafayette County, Arkansas approximately 20 miles west of the town of Magnolia and approximately 7 miles south of the town of Lewisville (Figure 1-1). The CPF would be located on a 118-acre parcel of land (CPF site) owned by SWA Lithium that was formerly used for silviculture prior to the SWA Lithium purchase. The CPF would be located within the western portion of the tract to avoid impacts to wetlands identified in the eastern portion of the parcel. The CPF and required supporting infrastructure (e.g., access roads, power, etc.) would encompass approximately 86 acres of the 118-acre CPF site. The Proposed SWA Project’s other facilities, including the wellfield, lie east of the CPF (Figure 2-1). In total, the Proposed SWA Project facilities would encompass approximately 408 acres (Table 2.1-1).

TABLE 2.1-1: LAND REQUIREMENTS FOR THE PROPOSED SWA PROJECT

Component	Description	Land Requirement (acres)
CPF and site access road	The CPF site is 118 acres of which 80 acres would be occupied by the CPF and associated infrastructure. <ul style="list-style-type: none"> • CPF area ~65 acres • Construction Laydown area ~15 acres • The CPF site Access Road accounts for an additional ~6 acres east of the CPF site 	~86
Well pads	5 well pads and access roads at approximately 15 acres each, including required grading/land preparation.	~72
Pipelines and distribution line (including drill boxes)	The Proposed SWA Project would require ~15 miles of brine/sour gas pipelines that will be contained within a 140-foot ROW. Electrical distribution lines required for the Proposed SWA Project will be co-located within the pipeline ROW.	~250
Total		~408 acres

CPF = Central Processing Facility; ROW = right-of-way

In addition to land requirements, the Proposed SWA Project and ancillary activities would also require multiple types of wells with different purposes. Descriptions of each well type are included in Table 2.1-2 below.

TABLE 2.1-2: SUMMARY OF WELLS TO BE DEVELOPED FOR THE PROPOSED SWA PROJECT AND ANCILLARY ACTIONS

Name	Proposed SWA Project or Ancillary Action	Location	Description	Number
CPF freshwater wells	Proposed SWA Project	CPF	Provides potable and process makeup water from the Sparta aquifer.	4 total (3 operational and 1 backup)
Well pad freshwater wells	Ancillary Action	Well Pads A–E	Provides freshwater for the drilling process for the brine production and injection wells. Will be maintained to provide well maintenance water as needed.	5 total (1 per well pad)
Brine production wells	Ancillary Action	Well Pads A–E	Supplies brine for lithium extraction.	14
Brine injection wells	Ancillary Action	Well Pads A–E	Reinjects lithium-depleted brine into Smackover Formation.	12

CPF = Central Processing Facility

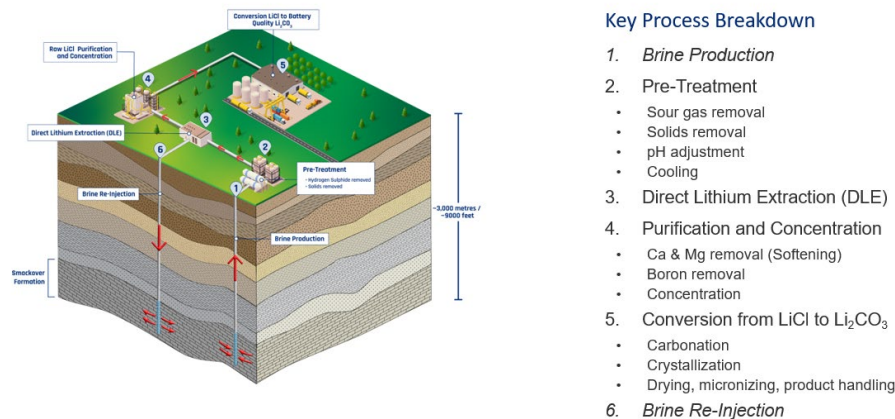
2.1.3 PROCESS OVERVIEW

The overall process includes activities at the CPF which are considered the Proposed SWA Project for which funding is being considered, and activities within ancillary facilities (wellfield) that occur prior to and after the activities within the CPF. As such, the entire process is described here, with CPF activities included in the Proposed SWA Project denoted within the narrative, to distinguish from proposed activities at ancillary facilities.

The CPF would receive brine supplied from the brine production wells for processing which occurs in four key steps (Figure 2.1-1):

- Brine receiving and pretreatment
- DLE
- Purification and concentration
- Conversion to lithium carbonate

FIGURE 2.1-1: CENTRAL PROCESSING FACILITY PROCESS OVERVIEW



Ca = calcium; CPF = Central Processing Facility; Li₂CO₃ = lithium carbonate; LiCl = lithium chloride; Mg = magnesium

Following processing, lithium-depleted brine is sent to the distribution pipeline network for reinjection back into the Smackover Formation to maintain formation pressure. The overall process flow for the Proposed SWA Project is described below and depicted on Figure 2.1-2. Figure 2.1-3 depicts the CPF layout as currently envisioned with key facility components identified.

1. Brine production (ancillary facilities)

Lithium-rich brine would be supplied from the Smackover Formation via brine production wells. As the brine is pumped to the surface, naturally occurring sour gas comprising of methane, carbon dioxide (CO₂) and H₂S gas will evolve from the brine as the pressure drops. The brine, sour gas, and trace amounts of hydrocarbons would be separated at the well pads. The brine would then be delivered to the CPF via pipeline, the sour gas will be sent via pipeline to a third-party gas processing facility (Figure 2-1), and the trace hydrocarbons would be disposed of at a suitable hydrocarbon processing facility or approved waste management facility.

2. Brine receiving and pretreatment (CPF)

Brine would be received at the CPF and stripped of residual sour gas to ensure safe operation. The residual sour gas would be converted to sodium hydrosulfide (NaSH) which can then be neutralized and redissolved in the lithium-depleted brine or alternatively (on a contingent basis) would be disposed of at a suitable third-party facility or approved waste management facility. The degassed brine would be cooled and pre-treated with sodium hydroxide (NaOH) and hydrogen peroxide (H₂O₂). The pre-treated brine would pass through filtration to remove any naturally occurring suspended solids and trace hydrocarbons which may be entrained in the brine.

3. Direct lithium extraction (CPF)

The proprietary DLE technology used, Koch Technology Solutions LiPro™ Lithium Selective Sorption process, uses an adsorbent media to remove lithium chloride (LiCl) from the brine stream which will be recovered using water to create a raw LiCl solution. The raw LiCl solution would then be sent on for purification and concentration, and the lithium-

depleted brine comprised of non-lithium salts and any excess water not recovered for recycling would be sent for reinjection back into the Smackover Formation.

4. Purification and concentration (CPF)

The raw LiCl will be purified and concentrated in the following steps:

a. Softening

- i. The concentrated LiCl would be reacted with NaOH and sodium carbonate (Na_2CO_3) to aid in removal of calcium and magnesium from the LiCl solution (see Figure 2.1-3). Solids from the softening process would be removed, redissolved, and returned to the lithium-depleted brine for reinjection into the Smackover Formation.

b. Polishing

- i. The LiCl solution would be further purified through ion exchange (IX) to remove the residual calcium, magnesium, and boron. The IX media would be regenerated using hydrochloric acid, NaOH, and water. The regeneration streams are collected and returned to the lithium-depleted brine for reinjection into the Smackover Formation (polishing, see Figure 2.1-3).

c. Concentration

- i. The purified LiCl would be further concentrated to recover as much of the remaining water for reuse in the DLE process.

5. Conversion to lithium carbonate (CPF)

Conversion to a saleable battery-quality lithium carbonate product occurs in the following steps.

a. Evaporation and sodium chloride (NaCl) crystallization

The concentrated LiCl would continue to an evaporator-crystallizer that further concentrates the LiCl and would remove NaCl from the solution via crystallization. The NaCl crystals would be redissolved and combined with the lithium-depleted brine for reinjection.

b. Carbonation

A sodium carbonate solution would be mixed with the incoming LiCl in crystallizers converting the concentrated LiCl to a crude (low quality) lithium carbonate solid. The crude lithium carbonate would then be redissolved and converted to a lithium bicarbonate solution using CO_2 . This solution would then be filtered and processed through IX to remove residual calcium and magnesium impurities. The purified lithium bicarbonate solution would then be converted back to produce purified lithium carbonate via crystallization. The CO_2 used in the process is recycled for reuse in the lithium bicarbonate stage.

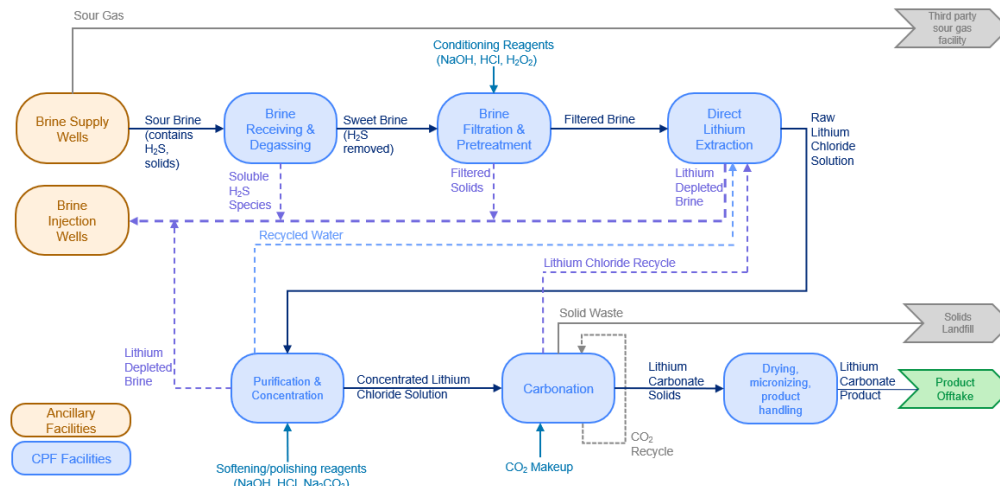
c. Drying, micronizing, product handling

Lithium carbonate crystals would be washed, dried, and sized through a micronizer to produce battery-quality lithium carbonate. The lithium carbonate would transfer to storage silos and then packaged for shipment. Packaged lots of battery-quality lithium carbonate product would be stored in the product warehouse prior to load-out for transportation by truck by others.

6. Lithium-depleted brine reinjection (ancillary facilities)

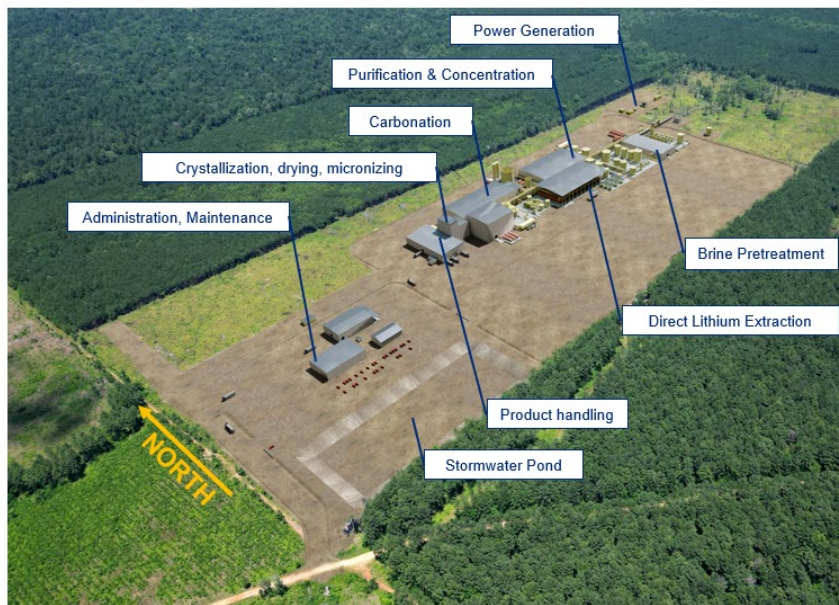
Where process waste streams are generated from the brine, these are conditioned and returned to the lithium-depleted brine stream for reinjection. Any process water which is not recovered for recycling/reuse is combined with the lithium-depleted brine stream and reinjected into the Smackover Formation. Note that the additional water results in slightly higher volume being reinjected into the resource as compared to what is produced which aids in the effective production (sweep) of the resource.

FIGURE 2.1-2: PROPOSED SWA PROJECT PROCESS FLOW DIAGRAM



CO₂ = carbon dioxide; CPF = Central Processing Facility; H₂O₂ = hydrogen peroxide; H₂S = hydrogen sulfide; HCl = hydrogen chloride; Na₂CO₃ = sodium carbonate; NaOH = sodium hydroxide

FIGURE 2.1-3: PLANNED CENTRAL PROCESSING FACILITY LAYOUT



CPF = Central Processing Facility

2.1.4 WELLFIELD

Ancillary facilities for the Proposed SWA Project include well pads and wells, access roads for well pads, and pipelines—collectively referred to as the wellfield. Wellfield facilities include the well pads (which contain the brine production wells, brine injection wells, and well pad freshwater wells for use during well installation and maintenance), pipelines, and associated infrastructure (access roads for well pads and power distribution lines that would be co-located in the pipeline right-of-way [ROW]), which would be used to produce the brine, carry the brine to the CPF, and return and reinject the lithium-depleted brine from the CPF.

Well Pads

The brine production and injection wells would be located on five well pads (well pads A through E; Figure 2-1), each including new brine production wells, well pad surface facilities, and brine injection wells. Each well pad would include 2 to 4 supply and 2 to 4 injection wells. Across the five well pads, there would be a total of 14 supply and 12 injection wells. Each well pad would include surface facilities that will separate gas, brine, and liquid hydrocarbon streams for distribution to the appropriate pipelines. New or improved access roads would be developed to provide well pad access.

Figure 2.1-4 provides examples of brine production and injection wells, which are similar in appearance to the planned wells for the Proposed SWA Project.

FIGURE 2.1-4: SURFACE COMPONENTS OF TYPICAL SUPPLY AND INJECTION WELLS



2.1.5 PIPELINES

In total, approximately 15 miles of pipeline ROWs (containing underground pipelines for brine supply, brine injection, and sour gas pipelines) would be installed for the Proposed SWA Project (Figure 2-1). The pipelines would serve three purposes:

- To carry the produced brine to the CPF for treatment and lithium extraction;
- To carry the lithium-depleted brine back to the wells for reinjection; and

- To carry gas removed during brine production¹ to an existing third-party gas plant already operating in the area.

Pipelines would be installed by means of open-cut trenching with an excavator and/or trenching machine to a minimum depth of 36 inches to top of pipe, except for stream and road crossings, which would be installed using horizontal directional drilling (HDD). HDD may also be used where normal trenching practices cannot be utilized or to minimize impacts to environmentally sensitive areas or wetlands. To the extent practicable, wells have been designed to be directionally drilled from surface to the bottomhole locations to enable common well pads for multiple wells thereby minimizing the surface land requirements.

2.2 CONSTRUCTION

Construction activities for the CPF, well pads, access roads, and pipelines include site preparation, grading, installation of foundations and equipment, construction of drainage features and stormwater management features, and pre-commissioning. Construction of the CPF is anticipated to occur 7 days a week, typically during daylight hours, but 24-hour operations may sometimes be required. The entire CPF site and well pad sites would be fenced and secured during construction for security and safety reasons. Required facility lighting during construction will be limited to that required for security.

Construction and operational emissions to air, surface waters, and subsurface waters, and proper management/disposal of solid wastes are regulated by the federal and state agencies to protect the environment, while allowing responsible development of the lithium resources. Emissions and wastes generated from construction and operation of the Proposed SWA Project are detailed in Chapter 3 of this **Final EA**. SWA Lithium intends to develop this Proposed SWA Project in compliance with all federal and state regulations. Appendix A includes a list of permits required for the Proposed SWA Project and their anticipated timelines.

2.3 OPERATION

The Proposed SWA Project would operate continuously 24 hours a day, 7 days per week. Like other industrial manufacturing facilities in the area, it is expected that the Proposed SWA Project would generate non-hazardous waste and emissions that will require management and safe disposal. The softening process acts to remove impurities from the LiCl stream, including calcium and magnesium ions. The Proposed SWA Project base case is to combine this stream back into the effluent brine tank for reinjection; however, there is the potential that this sludge may be disposed of as solid waste from the CPF. Prior to disposal, this stream would undergo compositional and pH analysis to validate composition and ensure safe transportation and disposal at a regulated facility.

Non-hazardous solid waste would be contained and trucked off to a landfill for final disposal at a permitted facility (see Section 3.9 for details). Air emissions generated during Proposed SWA Project operations would be calculated and appropriate permit(s) will be obtained as discussed in Chapter 3 and summarized in Appendix A. The Proposed SWA Project is currently undergoing comprehensive engineering work, a focus of which is elimination and minimization of emission and waste streams. Periodic generation of small amounts of hazardous waste that may be

¹ Gas removed from the Smackover Formation during brine extraction is primarily in the form of sour gas, which is a mixture of H₂S and natural gas.

generated during non-routine maintenance activities or cleaning would be appropriately handled on a case-by-case basis, should the need arise.

An on-site wastewater treatment plant would process potable water used in administration buildings and bathrooms.

2.4 POWER DEMAND AND SOURCE

The average power demand of the Proposed SWA Project during operation, including the CPF and the wells and pipelines is between 30 and 40 megawatts. The Proposed SWA Project currently proposes to self-generate electrical power required for the CPF and wellfield using natural gas-powered electrical generators. The CPF power generation is estimated to consume 3,000 million standard cubic feet of natural gas per year. Use of grid supplied power is not an option at this time due to the lack of a regional power transmission network supporting the Proposed SWA Project area. The Proposed SWA Project desires to connect to grid power if and when the local transmission network can support the required demand and will continue to pursue and evaluate sources of grid supplied power.

2.5 WATER DEMAND AND SOURCE

Operation of the CPF would require freshwater, which would be provided by groundwater sourced from the freshwater wells located at the CPF site (Table 2.1-2). The total anticipated freshwater requirement for operation of the CPF, based on the FEED design, is estimated to be approximately 1,600 gallons per minute during initial operation and increasing over the Proposed SWA Project life to approximately 1,700 gallons per minute at peak brine production, which would be drawn from the Sparta aquifer via groundwater wells located within the CPF site. Potable water needs for employee use at the CPF would be supplied from the same freshwater wells.

The Proposed SWA Project would reduce overall water demand through the use of recycling of process water streams where practical. Reverse osmosis equipment would be employed to reduce water demand by recycling approximately 85 percent of the water required to the DLE process unit operation. The amounts of freshwater required for operation of the CPF described throughout this **Final** EA reflect this 85 percent reduction of water demand through recycling.

Construction of the brine production and injection wells would require freshwater for drilling. Well pad freshwater wells would be drilled at each well pad for the temporary drilling requirements and be maintained to provide supply water for maintenance. Maintenance requirements would be infrequent and range from 100 to 150 gallons per minute when needed.

2.6 WORKFORCE

SWA Lithium expects that there would be a positive economic impact on the surrounding communities driven by the jobs related to construction and operation, which SWA Lithium intends to staff locally to the extent possible. During peak construction, the Proposed SWA Project would support an average of approximately 300 full-time jobs with occasional staffing peaks anticipated at 600 to 800 workers. During operation, the Proposed SWA Project would support 106 full-time jobs. Local businesses that supply goods and services to the Proposed SWA Project facility may also be uplifted by the influx of capital associated with construction and operation of the facility.

2.7 PROPOSED SWA PROJECT ALTERNATIVES

2.7.1 NO ACTION ALTERNATIVE

In the absence of DOE funding, the Smackover Lithium team would likely still pursue the Proposed SWA Project. However, it is anticipated that the loss of DOE funding would delay the Proposed SWA Project's planned commercial operations date while replacement funding is sought. In addition, the loss of DOE support would decrease the likelihood of securing the balance of required financing, and hence, decrease the overall likelihood the Proposed SWA Project would be constructed. For the purposes of this analysis, the No Action Alternative will consider that the Proposed SWA Project as proposed would not occur. Without the Proposed SWA Project, the lithium that would be produced would not be available, which would not allow the U.S. to reduce imports of this critical mineral. The jobs and socioeconomic benefits described for the Proposed Action would not occur under the No Action Alternative.

2.7.2 OTHER CONSIDERED ALTERNATIVES

Alternative Processes Considered but not Pursued by SWA Lithium

SWA Lithium assessed different technologies and design alternatives, some of which were at the pilot or demonstration scale. SWA Lithium determined that the process described in this document is the most efficient and sustainable and least impactful way to execute the Proposed SWA Project. Each step of the process has been tested to optimize the technology for the brine to be produced and to refine processing parameters for the Proposed SWA Project to increase efficiency and reduce waste. Rejected alternative design options and the advantages of the selected alternatives are provided in Table 2.7-1.

TABLE 2.7-1: DESIGN ALTERNATIVES REJECTED AND ADVANTAGES OF SELECTED ALTERNATIVES

Alternative Rejected	Alternative Selected	Advantages of Selected Alternative
Evaporation ponds	DLE and reverse osmosis	<ul style="list-style-type: none"> • Reduced land requirement and impact • Reduced water use • Preserves brine resource for future extraction of other products (such as bromine) • No tailings
LiSTR DLE technology	LSS DLE technology	<ul style="list-style-type: none"> • Improved performance • Reduced chemical use • Decreased capital and operations costs
Production of Lithium Carbonate via electrolysis	Production of Lithium Carbonate via carbonation process	<ul style="list-style-type: none"> • 47% reduction in power demand • 90% reduction in solid waste produced
Direct brine evaporative cooling tower to cool incoming brine	Indirect brine cooling	<ul style="list-style-type: none"> • Significant reduction in particulate emissions
Wastewater management by trucking off-site or septic system	Wastewater management by on-site treatment	<ul style="list-style-type: none"> • Lowest overall impact • Reduced truck trips • Avoids complications for septic installation due to local soil conditions

Alternative Rejected	Alternative Selected	Advantages of Selected Alternative
Multi-media filtration only	Ultrafiltration	<ul style="list-style-type: none"> Substantial reduction in waste going to landfills
Water softening through IX	Water softening through chemical softening	<ul style="list-style-type: none"> Reduced chemical and reagent requirements
Siting CPF in eastern part of owned parcel	Siting CPF in western part of owned parcel	<ul style="list-style-type: none"> Avoidance of impacts to identified wetlands

% = percent; CPF = Central Processing Facility; DLE = Direct Lithium Extraction; IX = ion exchange; LSS = Lithium Selective Sorption

Alternatives Under Consideration by SWA Lithium

SWA Lithium is investigating the potential for an alternate route of the sour gas pipeline to the third-party reinjection plant. The alternate route would use existing ROWs held by a third party who would construct, maintain, and operate the pipeline from the tie in point on the Proposed SWA Project pipeline. This option would eliminate potential impacts from the “base case” sour gas pipeline to the destination facility. Although SWA Lithium is investigating the potential for this alternate route, this alternate route is not analyzed in this **Final** EA. For purposes of this **Final** EA, it is assumed that the “base case” sour gas pipeline route originally proposed and analyzed in cultural resource, threatened and endangered species, and wetlands delineation background studies would be the route utilized for Proposed SWA Project. This route is depicted in all figures containing Proposed SWA Project within this **Final** EA. If further investigations indicate that SWA Lithium would need to utilize the alternate sour gas pipeline route, additional NEPA analyses and consultations beyond those addressed in this **Final** EA may be required.

Also, SWA Lithium is undertaking site-specific testing to validate the local aquifer yield and the viability of sourcing the Proposed SWA Project’s freshwater needs from the Sparta aquifer, with results expected in the second quarter of 2026. For purposes of this **Final** EA, it is assumed that the water needs of the CPF can be sustainably supported by the freshwater wells in the Sparta aquifer. Should testing indicate that the Sparta aquifer cannot sustainability support the CPF water needs, the Proposed SWA Project would consider sourcing freshwater from the nearby Red River Alluvium. This alternative would require construction of an additional water pipeline between the wells and the CPF site. Preliminary desktop analysis indicates that the Red River Alluvium offers a viable alternative source to meet the Proposed SWA Project’s freshwater needs, should future testing indicate that the proposed sourcing from the Sparta aquifer is not achievable (see Section 3.6.2.1 for further details). If this further testing indicates that wells within the Red River Alluvial Aquifer are needed to sustainably support operation of the CPF, the installation and operation of those wells and the water pipeline would require additional NEPA analyses and consultations beyond those addressed in this **Final** EA.

Alternatives Considered by DOE

In addition to the No Action Alternative, DOE’s other alternatives to the Proposed SWA Project consist of the numerous technically acceptable applications received in response to DE-FOA-0003099. DOE made preliminary determinations about the level of review under NEPA based on potentially significant impacts it identified during a review of the technically acceptable applications. DOE conducted these preliminary reviews, and preliminary NEPA determinations were provided to the selection official, who considered them during the selection process. Because DOE’s Proposed Action is limited to providing financial assistance to projects

submitted by applicants in response to a competitive funding opportunity, DOE's decision is limited to either accepting or rejecting a project as proposed by the proponent—including its proposed technology and selected sites. Therefore, DOE's consideration of reasonable alternatives is limited to the technically acceptable applications and the No Action Alternative for each selected project.

Impact Minimization Measures Incorporated into the Proposed SWA Project Design

The Proposed SWA Project has used the mitigation hierarchy (avoid, minimize, mitigate) to minimize impacts to jurisdictional wetlands and waterbodies. Below is a summary of the impact minimization approach for both the CPF and wellfield areas.

Avoid: The CPF site was selected based on proximity to existing infrastructure as well as avoiding low lying areas, wetlands, and streams and minimizing impacts to cultural resources. Each well pad was similarly selected based on a defined envelope of well bore reach whilst avoiding low lying wet areas, local residences, and any observed cultural resources. Wetland and waterbody delineations and desktop flood mapping confirmed that the above approach successfully avoided or minimized the placement of facilities or equipment in jurisdictional wetlands and floodplain areas for both the CPF and well pad sites. The initial layout for **Well Pad E** contained 0.3 acres of jurisdictional wetlands; however, the engineering design has been updated to avoid impacts to this wetland.

Minimize: Pipeline and powerline routes were optimized to minimize impacts to jurisdictional features by following the most direct routes and minimizing land impacts, while avoiding low lying wetland areas to the extent practicable. Landowner requests regarding ROW location were also considered. Further, ROW widths were reduced for the pipeline and powerline corridors by using HDD in some locations, aligning ROWs with county roads where possible to eliminate the need for additional road clearing, and aligning ROWs with other third-party ROWs where possible. Some portions of the ROW containing jurisdictional wetlands and streams would have non-mechanized tree felling with roots left in place to minimize permanent loss of jurisdictional wetlands.

Mitigate: Mitigation measures to address unavoidable residual impacts include planned seasonal construction such as open cutting pipeline trenches across intermittent streams during dry months to avoid sedimentation impacts, preservation of unused areas of the CPF site in the current undeveloped state, and purchase of credits from USACE approved mitigation banks in association with federal (i.e., USACE) wetland permitting.

3. ENVIRONMENTAL CONSEQUENCES

In the following sections, resource areas are addressed with both qualitative and, where applicable, quantitative information to concisely describe the nature and characteristics of the resource that may be affected by the Proposed SWA Project (Affected Environment), as well as the potential impacts on that resource from the Proposed SWA Project. This chapter is organized into discussions for the CPF (Proposed Action) and Wellfield (Associated Facilities).

3.1 AESTHETICS AND VISUAL RESOURCES

3.1.1 AFFECTED ENVIRONMENT

Central Processing Facility

The portion of southwest Arkansas where the Proposed SWA Project is located is characterized by gently undulating to rolling terrain. Arkansas Highway 29 (AR 29) lies west of the CPF site. A Union Pacific Railroad line runs parallel to and just west of AR 29 near the CPF site (Figure 2-1). An unpaved road (County Road [CR] 2918) extends from AR 29 and runs along the CPF site's southwestern corner. CR 16 lies approximately 2 miles south of the CPF site and runs northeast to intersect with AR 313 approximately 1.3 miles east of the CPF site. An existing natural gas pipeline easement runs north of the CPF site and crosses AR 29 approximately 0.25 mile north of where the unpaved roadway meets AR 29. This pipeline easement creates a view corridor through the trees. The area is predominantly undeveloped, characterized by deciduous, mixed, and evergreen forest, most of which are in active silviculture. The area is sparsely developed with residences scattered along CR 16, the closest of which is approximately 1 mile northeast of the CPF site. A cattle farm is located approximately 1 mile north-northeast of the CPF site.

The majority of the CPF site was cleared of evergreen trees planted for silviculture prior to SWA Lithium's purchase of the land in 2023 with a few areas of trees remaining, primarily within riparian buffers along streams and in the eastern portion of the CPF site. Surrounding parcels are covered in planted evergreens.

Wellfield

The existing visual setting for the wellfield is similar to the visual setting for the CPF site and consists primarily of existing or previously harvested timberland. Pipeline and other cleared linear corridors cross the landscape, creating gaps and view corridors within the forested areas. Widely scattered residences and other structures are present along public roads, as are occasional agricultural fields, particularly near the northeastern portion of the wellfield.

3.1.2 IMPACT ASSESSMENT

Central Processing Facility

The only public view of the CPF site is from AR 29, a roadway that is predominately used by Lafayette County residents and regional truck traffic, across a neighboring parcel recently harvested for timber. From the road, the view toward the CPF site includes an open field with tall grasses and scattered, young deciduous trees that is bordered by a line of evergreen trees that follows an unnamed waterbody within the CPF site. The tallest structure on the CPF is expected to be approximately 115 feet, slightly taller than the approximately 100-foot average height of mature trees in the area, which limits the potential for visibility from AR 29. The nearest residence is approximately 1 mile away from the site and therefore would not be visually impacted by the CPF. **The project would utilize low-intensity, energy-efficient lighting that meets workers' safety requirements while minimizing light pollution. The CPF would contain most of the Project-related lighting. However, the CPF is largely surrounded by mature forest that would be taller than the lighting at the CPF, limiting the visibility of**

lighting in the area surrounding the CPF. Lighting at the CPF would be downward-facing and limited to that required for safety, security, and operation. Since direct views of the CPF would be limited from the roadway by surrounding trees and there are no nearby receptors, construction and operation of the CPF would have negligible impacts on aesthetics and visual resources

Wellfield

The nearest sensitive receptors (rural residences) are at least 0.25 miles away from any area of the wellfield. Most of these receptors are within forested areas that would screen views of wellfield equipment and activities. Where visible to receptors, the developed wellfield would have a similar appearance to existing pipelines (cleared corridors within forested areas) and wells. **During operation, well pads would have minimal, downward-facing lighting that would be limited to that required for security and safety purposes.** Due to the distance of residences and other receptors to the wellfield and the similarity of appearance to existing infrastructure, construction and operation of wellfield would have negligible impact on aesthetics and visual resources.

3.2 LAND USE

3.2.1 AFFECTED ENVIRONMENT

Central Processing Facility

The southwestern portion of Arkansas where the Proposed SWA Project is located is characterized by plantation forests and farmlands and consists of rolling hills with large timber farms and sparsely populated private residences. Southwestern Arkansas along the border of Louisiana lies within the West Gulf Coastal Plain, where the landscape consists of extensive areas of loblolly-shortleaf pine forests; level-to-rolling terrain; deposits of sand and gravel; and industrially significant deposits of clay, bauxite, and petroleum. The CPF lies east of the Red River alluvium, which supports significant farming activity due to the alluvial soils, so the Proposed SWA Project would not impact any of this locally or regionally important farmland.

The CPF site is located in Lafayette County, Arkansas, approximately 20 miles west of the town of Magnolia and approximately 7 miles south of the town of Lewisville. The CPF site is composed of two privately owned parcels: No. 001-05127-1, totaling 39.8 acres, and No. 001-05134, totaling 78.5 acres. Both parcels have been used for silviculture and lie within an area not subject to zoning requirements (Lafayette County Assessor's Office 2024). The CPF site was logged and cleared prior to purchase.

The CPF site is not located within military or federal lands. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is the holder of a conservation easement for a site called Wetlands Reserve Program (approximately 4,437 acres), located 3.5 miles west of the CPF site. Arkansas Fish and Wildlife manages the Lafayette Wildlife Management Area (approximately 14,703 acres), located 5 miles south of the CPF site (USGS 2025a).

Wellfield

The existing land use within the wellfield consists primarily of existing or previously harvested timberland, creating a patchwork of different-aged forest stands and early successional habitats that emerge post logging. Wetlands and riparian forests bordering waterbodies occur throughout the wellfield and agricultural fields occur in the northeastern portion of the wellfield. The wellfield is intersected by maintained pipeline corridors and roads.

3.2.2 IMPACT ASSESSMENT

Central Processing Facility

The construction and operation of the CPF would have minor impacts on land use. The Proposed Action is planned for land that has been previously managed for pine production and was partially logged and clear cut in 2023. Approximately 86 acres of land would be permanently impacted with the addition of impenetrable surface. The Proposed Action would convert land previously used for silviculture to development for the CPF with minimal disruption to surrounding land uses. The area of land impacted would be very small relative to the amount of forest and silviculture in the surrounding area. The nearest conservation easements and wildlife management areas are several miles away from the site and would not be impacted by the Proposed SWA Project development. The parcels are not subject to zoning requirements; therefore, there would be no conflict with zoning regulations.

Wellfield

As with the CPF, construction and operation of the wellfield would have a minor impact on land use, converting land previously used for silviculture with minimal disruption to surrounding land uses. To the extent practicable, existing access roads would be used during the construction phase to minimize land disturbance. Wellfield development would be consistent with other uses present in the area and, therefore, would have a minor impact on land use.

3.3 AIR QUALITY

3.3.1 AFFECTED ENVIRONMENT

Central Processing Facility and Wellfield

Pursuant to the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) to control a limited number of widely occurring criteria pollutants, including carbon monoxide, oxides of nitrogen (NO_x), ozone, particulate matter (PM), and sulfur dioxide. Primary air quality standards were developed by USEPA for these pollutants to protect public health, including sensitive populations such as children, elderly, and asthmatics. Secondary standards were developed to protect the nation's welfare, protect the public health, and provide at-risk populations with an adequate margin of safety. The CPF site and wellfield would be located in an airshed that is in attainment for all criteria pollutants. There are no existing structures or stationary air emission sources on-site or in the immediate vicinity. The CPF site and wellfield are currently undeveloped and do not have any sources of air emissions.

3.3.2 IMPACT ASSESSMENT

Central Processing Facility

Air emissions from CPF construction activities would be generated from fuel combustion from mobile sources (e.g., trucks, automobiles, construction equipment) as well as dust generated by earthmoving activities. Emissions from workers’ vehicles, construction equipment, and trucks would be minor, temporary, and transient in nature. Various standard best practice measures for dust suppression (e.g., wetting agents for active earthmoving and site grading operations) would be implemented throughout the CPF construction phase. In addition, truck tires would be washed as they enter and leave the site and open-top truck beds would be covered to limit particulate emissions and nuisance dust.

During operation, the CPF would be a source of regulated air pollutants, including carbon monoxide, NO_x, PM with diameters of 10 microns or smaller (PM₁₀), PM with diameters of 2.5 microns or smaller (PM_{2.5}). The estimated potential to emit levels associated with operation of the CPF are summarized in Table 3.3-1. Emission sources associated with the CPF include the natural-gas-powered electrical generator, a non-contact cooling tower, brine, process tanks, boilers, emergency generators, and material handling dust collectors.

TABLE 3.3-1: ESTIMATED AIR EMISSIONS ASSOCIATED WITH OPERATION OF THE CENTRAL PROCESSING FACILITY

Pollutant	Estimated Potential to Emit (tons per year)
PM	77
PM ₁₀	74
PM _{2.5}	62
CO	85
NO _x	86
SO ₂	8
VOC	71
CO _{2e}	290,000*
Single Hazardous Air Pollutant	5
Total Hazardous Air Pollutants	8
H ₂ S	2

CO = carbon monoxide; CO_{2e} = carbon dioxide equivalents; H₂S = hydrogen sulfide; NO_x = oxides of nitrogen; PM = particulate matter; PM_{2.5} = particulate matter with diameters of 2.5 microns or smaller; PM₁₀ = particulate matter with diameters of 10 microns or smaller; SO₂ = sulfur dioxide; VOC = volatile organic compounds

Note: PM categories—PM₁₀, PM_{2.5}, and PM—are not additive. They represent size-based subsets of airborne particles.

*This number includes emissions from power generation for both the CPF and wellfield

A preliminary emissions analysis indicates that emissions are expected to be below Clean Air Act Major Source thresholds and the CPF would require a minor source permit. Arkansas Department of Environmental Quality (ADEQ) requires that emission sources be identified and quantified and included with the air permit application. SWA Lithium has applied for a minor source air permit with the ADEQ, and the application was determined to be administratively complete in early December 2025.

To reduce air emissions, the CPF would employ control devices such as:

- Dust collection on product storage bins
- Non-contact cooling towers
- Wet scrubbers
- Boilers equipped with low NOx burners
- NOx controls for the gas-powered electrical generators

Because CPF operations would be required to conform to the terms of the required permit to be issued by ADEQ, including venting process emissions through appropriate air pollution control devices, impacts on air quality from operation of the CPF would be minor.

Air emissions associated with construction of the CPF would be minimal and associated with mobile construction vehicles and generators. To supply appropriate power to the CPF during operations, SWA Lithium plans to install and operate natural-gas-powered electrical generators, which would be the primary contributor to the Proposed SWA Project's air emissions. As noted in Table 3.3-1 above, operation of the Proposed SWA Project is expected to generate 290,000 tons of CO_{2e} annually.

Wellfield

During construction activities, air emissions from fuel combustion in mobile and construction equipment would be present, along with particulate emissions related to earthmoving activities. Emissions from workers' vehicles, construction equipment, and trucks would be minor, temporary, and transient in nature.

During operation, the wellfield would not have any combustion sources. Each well pad is designed with an emergency vent and otherwise would not generate any emissions during normal operations. The sour gas that is a predicted process byproduct of brine production would be captured and delivered to an off-take customer. As such, air emissions from wellfield operations are predicted to be negligible.

Similarly to that of the CPF, the construction of the wellfield would have minimal air pollutant emissions associated with mobile construction vehicles and generators. Operation of the wellfield would not generate air emissions and, therefore, would not have any impact on the atmosphere. Air emissions associated with power generation are included in the CPF analysis above.

3.4 NOISE

3.4.1 AFFECTED ENVIRONMENT

Central Processing Facility and Wellfield

Land use surrounding the CPF site is primarily silviculture; therefore, the ambient noise levels are low and characteristic of rural settings. The existing ambient noise levels were estimated using an American National Standards Institute standard (approximately 40 A-weighted decibels [dBA] and 34 dBA during the day and night, respectively) (ANSI 2013). Timber harvesting activities generate noise when they are occurring but given the historic and ongoing nature of silviculture in this area, this noise is characteristic of the noise setting of the region. No other major noise-generating source occurs in the vicinity of the CPF site. The nearest noise-sensitive

areas (NSA) are residences located over 1 mile away, northeast of the CPF, and over 0.4 mile from the approximate center of any well pad.

3.4.2 IMPACT ASSESSMENT

Central Processing Facility

No Arkansas state noise standards or Lafayette County noise ordinances applicable to the Proposed SWA Project site were identified. To assess the potential for noise impacts, USEPA guidelines were used (USEPA 1978). The USEPA guideline was developed for “outdoor residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.” The guideline considers a continuous noise level of 48.6 dBA or less as being protective of the public health and welfare from the effects of environmental noise.

Construction of the CPF would generate temporary noise from heavy machinery such as bulldozers, graders, excavators, dump trucks, and cement trucks. Noise and sound levels would be typical of new construction activities and intermittent and temporary. The large distance between the CPF and the NSAs would effectively attenuate construction-related noise and therefore would be negligible.

During operation, the CPF would have the following major noise-generating equipment:

- Natural gas fired power plant
- Air compressors
- Five cooling tower units
- Six chillers
- Pumps and motors
- Air cooling fans
- Blowers/heaters
- High voltage transformer

A noise model was developed incorporating the noise emissions data for the above sources and using the International Organization for Standardization 9613 standard for air absorption and other noise propagation calculations (ISO 2024). Figure 3.4-1 (Appendix E) provides the results of the noise model as noise level contours along with the nearest NSAs. Based on the model, operational noise levels would be less than 40 dBA at all the identified NSAs and below the USEPA guidelines for protecting noise-sensitive locations; therefore, negligible impacts would be expected to occur during the Proposed SWA Project operation.

Wellfield

Like that described for the CPF, installation of wellfield facilities (well pads and pipelines) would generate temporary noise that would be typical of new construction activities. These would be intermittent, temporary, and negligible. Drilling during construction would be short-term and expected to be conducted 24 hours a day for 3 to 4 weeks per well. During operation, the well pads would generate low levels of noise associated with electric pumps and transformers and periodic maintenance activities for the pipelines and wells would generate intermittent, low

levels of noise. These activities are common in the region, so would not introduce a new noise source.

Noise modeling was conducted for Well Pad A and Well Pad B due to their closer proximity to noise-sensitive receptors compared to Well Pads C through E. Noise modeling conducted for Well Pad A determined that the predicted noise generated during well drilling and well construction (53 dBA day-night average sound level [Ldn]) would not exceed the USEPA guideline for 24-hour operation (55 dBA) at the closest residence, which is 0.5 mile from the center of Well Pad A (Figure 3.4-2 [Appendix E]). The USEPA guideline is protective of noise-sensitive receptors (homes, schools, etc.), including during nighttime operation. Noise modeling conducted for Well Pad B construction revealed that the predicted noise generated during well drilling and well construction would be 58 dBA Ldn (52 dBA equivalent continuous noise level [Leq]) at the closest residence, located 0.3 mile from the center of Well Pad B (Figure 3.4-3 [Appendix E]). The 58 dBA Ldn noise level would slightly exceed the USEPA guideline for 24-hour operation.

The noise modeling conducted did not account for the attenuation that may be provided by intervening vegetation between the noise sources and the receptors (in this case forest between the well pads and closest residences). Accounting for the intervening forest vegetation, reduction in noise of 7 dBA at the nearest residence to Well Pad A and reduction in noise of 5 dBA at the nearest residence to Well Pad B would be expected, diminishing noise exposure at these residences to predicted noise levels of 46 dBA Ldn for the residence closest to Well Pad A and 53 dBA Ldn for the residence closest to Well Pad B, which are levels below the USEPA guideline for 24-hour operation.

Further, the construction and operation noise levels presented are those which would be experienced by people outdoors. A building (residence) provides attenuation of outdoor noise for those who are indoors. According to the USEPA, sound levels can be expected to be up to 25 dBA lower indoors with the windows closed and up to 15 dBA lower with windows open, based on a national average of residential construction activities. Figure 3.4-6 (Appendix E) provides the predicted outdoor and indoor noise levels, with the least conservative 15 dBA reduction with windows open for indoor noise levels.

Well drilling and construction would be temporary activities, requiring 3 to 4 weeks per well. During operation, the well pads would not generate significant noise and typical operational noise levels for the well pads were modeled to be below ambient noise levels for the area (Figures 3.4-4 and 3.4-5 [Appendix E]).

Figure 3.4-6 (Appendix E) provides descriptors for indoor and outdoor noise levels, based on common sounds that may be experienced by a person. For example, 49 dBA Leq (54 dBA Ldn) is similar to the sound produced by moderate rainfall on foliage or a dishwasher in an adjacent room and 55 dBA is less than the sound associated with a normal conversation or a highway at a distance of 1,000 feet.

Overall, construction-related noise levels during well drilling would be temporary and at or below the aforementioned USEPA protective guideline at the nearest residence to any well pad, and overall noise impacts for operation of the wellfield would be negligible.

3.5 GEOLOGY AND SOILS

3.5.1 AFFECTED ENVIRONMENT

Central Processing Facility

Geology

The geology of southwestern Arkansas is dominated by the Smackover Formation. The Smackover Formation extends from the panhandle of Florida through Alabama, Mississippi, Louisiana, and Arkansas to Texas (Figure 3.5-1 [Appendix E]). The Smackover Formation's productive characteristics have been extensively characterized by the drilling of over 1,000 wells in approximately 600 former and producing oil and gas fields in the southeastern United States, with approximately 150 of those fields in Arkansas.

The Smackover Formation in southern Arkansas is commonly subdivided into two intervals: Upper and Lower. The Upper Smackover interval, which is the development target for the Proposed SWA Project, has been subdivided in southern Arkansas into the Reynolds Member Oolite, an ooid grainstone comprised predominantly of limestone, and the Middle Smackover. The Lower Smackover interval (also known as the "Brown Dense") is composed of dark, dense limestone interbedded with clay-rich layers (Imlay 1940). The entire Smackover Formation has been dolomitized to varying degrees.

The geology of the Proposed SWA Project area includes the lithium- and bromine-bearing Smackover reservoir that occurs between the Jurassic Gulf Coast basin-bounding faults north-northwest of the property and the state line fault system south-to-southeast, near the Arkansas-Louisiana border. The reservoir for the Proposed SWA Project is hosted in the Smackover Formation, which varies in depth from approximately 6,299 feet to approximately 8,599 feet.

Soils

Four distinct mapped soil units occur within the CPF site and site access road, as detailed in Table 3.5-1. The most prevalent soil units are Dorcheat silt loam and Wrightsville silt loam, covering approximately 59.3 acres (47.8 percent) and 42.7 acres (34.4 percent) of the site, respectively. The remaining soils—Gore silt loam and Forbing silt loam—occupy 14.1 acres (11.4 percent) and 7.3 acres (5.9 percent), respectively (USDA NRCS 2005). The mapped soil units within the CPF site exhibit a range of farmland classifications, from "not prime farmland" to "farmland of statewide importance" (USDA 2025). Gore silt loam is classified as farmland of statewide importance and Wrightsville silt loam and Dorcheat silt loam are classified as prime farmland if drained (USDA NRCS 2024). The CPF site is not drained and, therefore, the Wrightsville silt loam and Dorcheat silt loam soil units at the CPF site are not considered prime farmland.

The USDA defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Prime farmland is protected in the United States under the Farmland Protection Policy Act (FPPA). Farmland subject to FPPA requirements does not have to be currently used for cropland; it can be cultivated land, forest land, pastureland, cropland, or other land, but not land covered by water or urban land. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by

a federal agency or with assistance from a federal agency. Farmland of statewide importance refers to land with a good combination of physical and chemical characteristics that are economically capable of producing high yields of food, feed, fiber, forage, and oilseed crops when managed properly. Farmland of statewide importance is distinct from prime farmland but is still subject to FPPA requirements.

TABLE 3.5-1: SOILS WITHIN THE CENTRAL PROCESSING FACILITY SITE AND SITE ACCESS ROAD

Map Unit Name / Percent Slope	NRCS Prime Farmland Classification	Acres in CPF Site and CPF Access Road	Percent of Site (%)
Dorcheat silt loam / 0 to 2 % slopes	Prime farmland if drained	59.3	47.8
Forbing silt loam / 3 to 8 % slopes	Not prime farmland	7.3	5.9
Gore silt loam / 1 to 3 % slopes	Farmland of statewide importance	14.1	11.4
Wrightsville silt loam / 0 to 1 % slopes	Prime farmland if drained	42.7	34.4
Total		123.4	100.0

Source: USDA NRCS 2005

% = percent; CPF = Central Processing Facility; NRCS = National Resources Conservation Service

Wellfield

Geology

Geological conditions underlying the wellfield are the same as that described for the CPF site.

Soils

There are 18 mapped soil units in the wellfield (well pads and pipelines), as summarized in Table 3.5-2. The most prevalent soil units in this area are Adaton silt loam, Bowie fine sandy loam, Eylau fine sandy loam, Saffell gravelly fine sandy loam, Smithdale fine sandy loam, Muskogee silt loam, Wrightsville silt loam, and Guyton silt loam. Collectively, these soils cover over 90 percent of the area within the construction footprint of the well pads and pipelines. The mapped soil units within the wellfield exhibit a range of farmland classifications, from “not prime farmland” to “all areas are prime farmland” (USDA 2025). Eylau fine sandy loam, Bowie fine sandy loam, Muskogee silt loam, Woden fine sandy loam, Sawyer silt loam, and Felker silt loam are classified as “All areas are prime farmland.” Eylau fine sandy loam and Smithdale fine sandy loam are classified as farmland of statewide importance. Adaton silt loam, Wrightsville silt loam, and Dorcheat silt loam are classified as prime farmland if drained (USDA NRCS 2024).

TABLE 3.5-2: SOILS WITHIN THE WELLFIELD

Map Unit Name / Percent Slope	NRCS Prime Farmland Classification	Acres in Wellfield	Percent of Site (%)
Adaton silt loam, 0 to 1 percent slopes, rarely flooded	Prime farmland if drained	96.02	29.88
Bowie fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland	45.50	14.16
Dorcheat silt loam, 0 to 2 percent slopes	Prime farmland if drained	0.70	0.22
Eylau fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland	36.45	11.34
Eylau fine sandy loam, 3 to 5 percent slopes	Farmland of statewide importance	11.35	3.53
Felker silt loam, 0 to 1 percent slopes	All areas are prime farmland	1.20	0.37
Guyton silt loam, 0 to 1 percent slopes, frequently flooded	Not prime farmland	9.22	2.87
McKamie silt loam, 2 to 5 percent slopes	Not prime farmland	1.47	0.46
Muskogee silt loam, 1 to 3 percent slopes	All areas are prime farmland	22.22	6.92
Ruston fine sandy loam, 1 to 5 percent slopes	All areas are prime farmland	0.85	0.26
Sacul fine sandy loam, 3 to 8 percent slopes	Not prime farmland	3.50	1.09
Saffell gravelly fine sandy loam, 3 to 8 percent slopes	Not prime farmland	31.77	9.89
Sawyer silt loam, 1 to 3 percent slopes	All areas are prime farmland	2.41	0.75
Smithdale fine sandy loam, 5 to 8 percent slopes	Farmland of statewide importance	24.08	7.49
Udorthents	Not prime farmland	0.99	0.31
Woden fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland	5.94	1.85
Woden fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland	6.87	2.14
Wrightsville silt loam, 0 to 1 percent slopes	Prime farmland if drained	20.80	6.47
Total		321.34	100.0

Source: USDA NRCS 2005

% = percent; NRCS = National Resources Conservation Service

3.5.2 IMPACT ASSESSMENT

Central Processing Facility

Geology

Impacts on geology associated with the CPF would mainly occur during the construction phase. Excavation and grading associated with the construction of access roads, pipeline corridors, and building foundations have the potential to disturb surface soils and shallow geological layers. These disturbances would primarily result from mechanical disruption of soil horizons and sedimentary structures, which can lead to increased erosion, altered infiltration rates, and changes in shallow groundwater flow paths. Improper backfilling or compaction may create preferential pathways for surface contaminants to migrate into subsurface layers, particularly during heavy rainfall or accidental spills. Impacts on geology would be limited to the Proposed SWA Project footprint and would not fundamentally change the physio-chemical attributes of the shallow geology of the Proposed SWA Project area, so the geological impacts associated with the CPF would be minor during the construction phase, and negligible during CPF operations.

Soils

Construction of the CPF would result in minor, temporary disturbance of native soils. For soils that are hydric or exhibit moderate to high erodibility, disturbance would increase vulnerability to surface erosion, especially in areas with poor drainage and high clay content. Use of heavy machinery may also lead to soil compaction, reducing infiltration, and increasing runoff potential. If construction occurs during wet conditions or when drying time is limited, soil stabilization techniques such as the application of lime or cement amendment may be necessary to maintain workability and prevent rutting or structural failure of temporary access roads and construction laydown areas.

During operation, routine vehicle traffic on access roads may lead to ongoing soil compaction, particularly in areas underlain by fine-grained, shrink-swell soils. This compaction can reduce infiltration, increase runoff, and contribute to long-term soil erosion. Maintenance activities (e.g., piping repairs, equipment replacement) may require localized excavation, effectively prolonging the increased erosion risk associated with the initial construction phase. Stormwater runoff from impervious surfaces (e.g., CPF roofs, paved areas) may carry sediment and contaminants into adjacent soils, especially during high-intensity rainfall events. Overall, CPF operational impacts on soils would be negligible.

Changes in soil strata and drainage patterns may compromise the soil's suitability for other future uses following decommissioning of the Proposed SWA Project, particularly soils that are designated for agricultural use. Conversion of these soils for industrial use would reduce their availability and potentially their suitability for future farming or silviculture by altering their physical and chemical properties.

Handling, storage, and transfer of fuel and chemicals during construction would carry a risk of accidental spills, which could cause physical and/or chemical alteration of soil conditions if they were to occur. SWA Lithium would implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan to address any accidental spills. Brine reinjection operations may indirectly affect shallow soils if containment systems fail or if there is surface discharge due to equipment malfunction. These would be considered unplanned events and would be managed by the SPCC Plan.

Wellfield

Geology

Drilling brine production and injection wells through multiple geologic layers would potentially disturb the natural layering and cohesion of geologic units, if casing and cementing are inadequate. Wellbores would be designed and constructed in accordance with industry standards to mitigate the potential risk of wellbore collapse, cross-formational flow, compromise caprock integrity or create preferential pathways for fluid migration resulting in contamination of overlying aquifers.

Some stream and road crossings would be installed using HDD techniques to minimize surface disruption. These would be conducted following industry standards to mitigate the risk of drilling fluids escaping or borehole collapse. Further, an environmental inspector would monitor HDD activities to ensure compliance with approved construction workplans and regulatory requirements. Overall, impacts associated with wellfield construction are expected to be minor.

During the operational phase of the Proposed SWA Project, lithium-rich brine would be extracted from the Smackover Formation and reinjected after processing. Although the Proposed SWA Project is in a geologically stable region—specifically the gulf-margin normal fault system, classified as Class B Structures with low seismicity and uncertain rupture potential (Wheeler 1998)—pressure perturbations could still pose risks under certain conditions:

- **Pressure Redistribution:** extraction could reduce pore pressure in the reservoir, while reinjection increases it. If not carefully balanced, this could alter the stress state of surrounding rock and faults.
- **Fault Reactivation:** even in stable terrains, faults under critical stress could be reactivated by small changes in pore pressure, especially if injections occur near fault planes or fracture zones.
- **Induced Seismicity:** While rare in Class B fault systems, induced seismicity has been documented in other stable regions due to high-volume or high-pressure reinjection (Virginia Tech Seismological Observatory 2014). The risk is elevated if:
 - Injection rates exceed the formation’s natural dissipation capacity.
 - Fluids migrate into fault zones or legacy wellbores.
 - Monitoring and control systems fail to detect early warning signs.

The Arkansas Oil and Gas Commission (AOGC) regulates the reinjection of brine and requires that the reinjected brine be materially the same as what was extracted (excluding the extracted mineral) and reinjection pressures remain below fracturing limits. For operational purposes, the lithium-depleted brine would also be periodically sampled for composition and monitored for conditions such as temperature and pH prior to reinjection. The monitoring of brine reinjection volumes is driven by resource management rather than regulatory requirements: reinjecting the lithium-depleted brine is necessary to maintain the pressure in the Smackover Formation aquifer and to displace the lithium-rich brine to the brine production wells. This is standard practice in Smackover brine operations.

The Proposed SWA Project brine production and reinjection is not expected to induce seismic activity. Induced seismic activity in the south Arkansas region has been low to non-existent with over 60 years of brine production and injection (AGS 2012). Further, there would be measures in place to regularly monitor the integrity of the brine production and reinjection wells throughout the operational life of the Proposed SWA Project. All brine production and injection wells used for Proposed SWA Project operation would be checked using cement bond logs to confirm that the borehole space around the well pipe is properly sealed by the cement grout, preventing leaks between the deep Smackover Formation and shallower aquifers. The ability of the rock above the reservoir to hold fluids in place would be protected by maintaining injection pressures within safe limits set by the AOGC. The Proposed SWA Project would implement a robust pressure monitoring program to regularly check well conditions, and take action if pressures were to rise above AOGC-recommended levels.

Impacts on geology from the wellfield would be limited to the footprint of the wellfield and would not fundamentally change the physio-chemical attributes of the Smackover Formation, so the geological impacts associated with the wellfield would be negligible.

Soils

Impacts on soils within the wellfield would be similar in nature to the impacts described above for the CPF but located within the footprints of the well pads and the pipelines.

Agency Consultation for Farmland Protection Policy Act Compliance (Central Processing Facility and Wellfield)

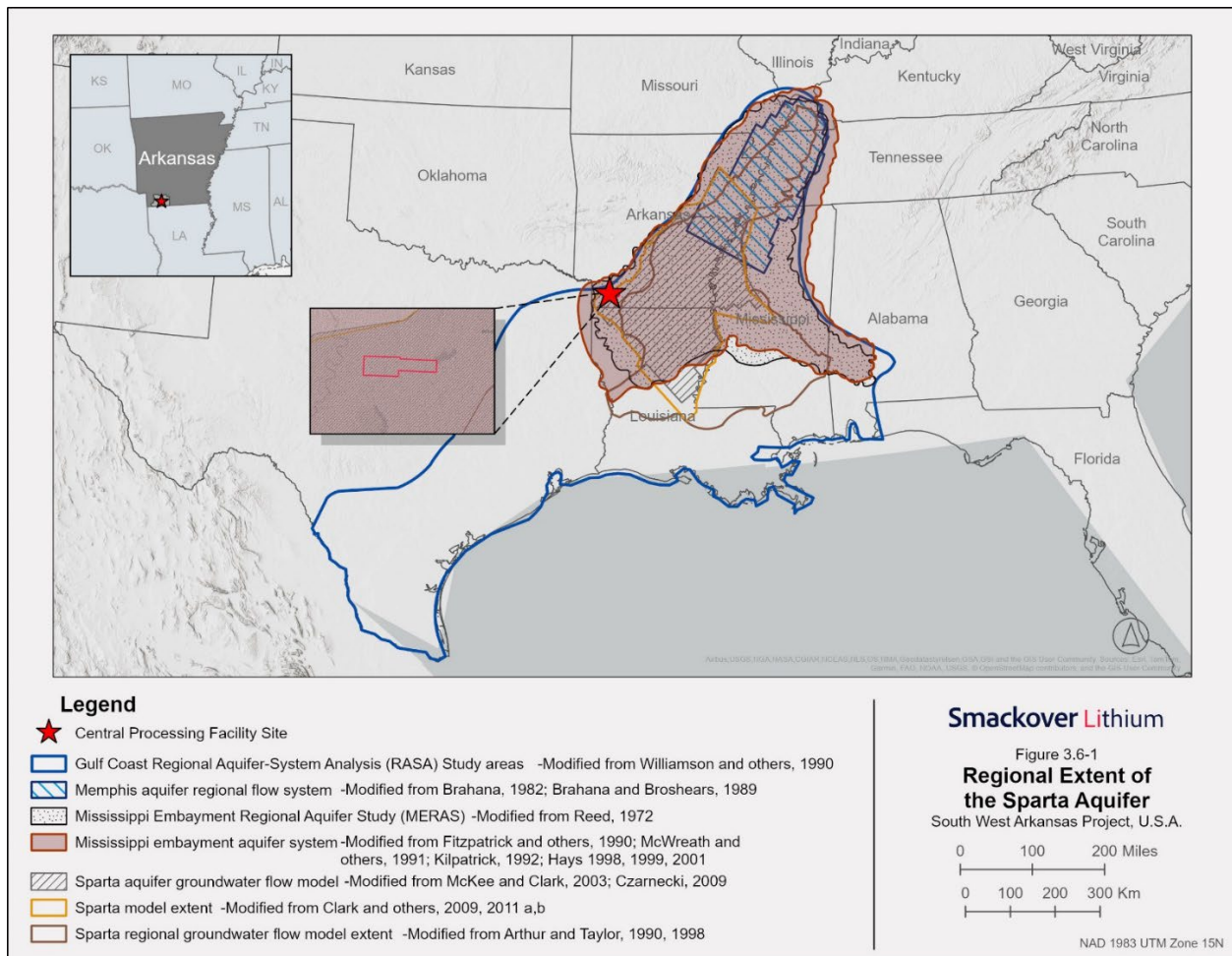
In accordance with FPPA requirements, DOE determined that the Proposed SWA Project is a “corridor-type” project and completed a USDA Farmland Conversion Impact Rating worksheet (form NRCS-CPA-106 [Appendix B]) and submitted it to the USDA NRCS to obtain Land Evaluation Information and Land Evaluation Criterion data. This data is provided by NRCS to inform DOE’s determination of whether the proposed land conversion from the Proposed SWA Project be consistent with the FPPA. The USDA NRCS responded with Land Evaluation Information and Land Evaluation Criterion data and noted that there are 302 acres of prime farmland and 50 acres of farmland of statewide importance within the Proposed SWA Project area (CPF and wellfield). Based on NRCS input and DOE’s completion of form NRCS-CPA-106 (Appendix B), DOE calculated 149 total corridor site assessment points, which is less than the 160-point threshold for evaluation of alternative sites. Thus, DOE’s determination is that the proposed conversion due to DOE’s Proposed Action and the Proposed SWA Project is consistent with the FPPA.

3.6 GROUNDWATER

3.6.1 AFFECTED ENVIRONMENT

The Proposed SWA Project footprint lies within the Gulf Coastal Plains aquifer system, which extends across Coastal Texas, Louisiana, Mississippi, southern and western Arkansas, and small areas of Tennessee, Alabama, Kentucky, and Missouri. Within the Mississippi River region, this aquifer system is commonly referred to as the Mississippi Embayment aquifer system. In Arkansas, the Mississippi Embayment aquifer system is generally divided into two main subregions: the Mississippi Alluvial Plain and the West Gulf Coastal Plain (USGS 2004). The Proposed SWA Project is in the West Gulf Coastal Plain subregion, specifically within the Sparta aquifer, although the Sparta aquifer is overlain by the alluvial and terrace deposits. The exact boundaries of the Sparta aquifer are subject to interpretation of various groundwater models, but the Proposed SWA Project footprint is located within the boundaries of the aquifer irrespective of the model selected (Figure 3.6-1). In southwest Arkansas, the Sparta aquifer transitions from unconfined in the west to confined in the southeast, as it dips into the Mississippi Embayment. The Sparta aquifer is locally confined, subcropping below quaternary terrace deposits beneath the site (Burns & McDonnell 2025).

FIGURE 3.6-1: REGIONAL EXTENT OF SPARTA AQUIFER



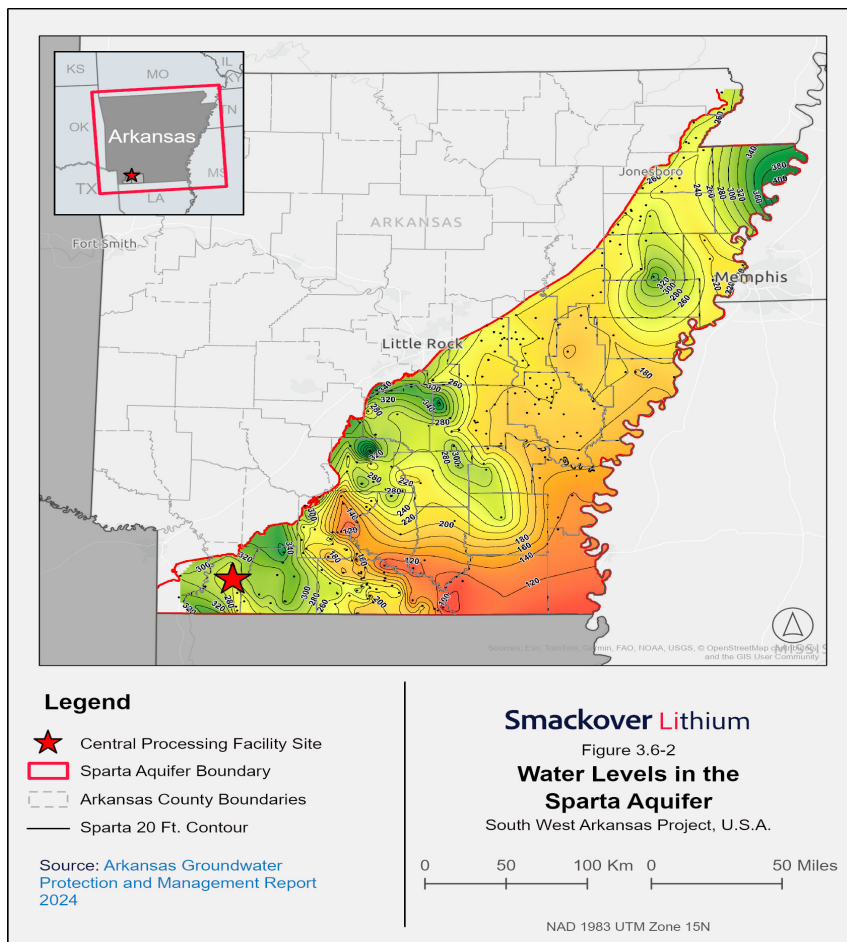
km = kilometers

The Sparta aquifer is an important aquifer in Arkansas and is regularly used as a source of public, agricultural, and industrial water supply for many parts of the state. Over 120 municipalities, including those in Lafayette County, rely on the Sparta aquifer for public water supply. Hydraulic properties within the Sparta aquifer are highly variable. Well yields are reported to be as high as approximately 700 gallons per minute (gpm). Increasing agricultural use of the overlying alluvial aquifer, particularly in areas where the Red River and Sparta aquifers may be hydrologically connected, has been linked to declining water levels in portions of the Sparta aquifer. However, no noticeable decline in water levels in the Sparta aquifer in the vicinity of the Proposed SWA Project area has been observed (ADA 2024). Hydraulic properties of the Sparta aquifer vary widely: transmissivity ranges from approximately 1,800 to 17,400 square feet per day, hydraulic conductivity from approximately 11 to 110 feet per day, storage coefficients from 0.0002 to 0.0024, and specific capacities from approximately 7 to 14 gpm per foot. Higher transmissivity correlates with thicker sand intervals rather than sand content alone (Kresse et al., 2014).

Groundwater level fluctuations in the Sparta aquifer are a matter of concern due to sustained increases in public, industrial, and agricultural demand since predevelopment conditions prior to

1965. In spring 2024, the Arkansas Department of Agriculture conducted an analysis of water level data across the state from 233 wells within the Sparta aquifer, comparing current measurements to historical data across 1-, 5-, and 10-year intervals. Overall, the Sparta aquifer continues to show signs of water level recovery—particularly in regions historically affected by severe drawdown. In fact, water level data for six wells in the Sparta aquifer in Lafayette County between 2014 and 2024 shows a moderate increase of 1.81 to 7.3 feet (ADA 2024). This area is hydraulically connected to the overlying terrace deposits aquifer, suggesting that the limited withdrawals from the overlying alluvial system may not be impacting the water levels in the Sparta aquifer near the site. Current aquifer-wide water levels in the Sparta aquifer are depicted on Figure 3.6-2 (ADA 2024).

FIGURE 3.6-2: WATER LEVELS IN THE SPARTA AQUIFER

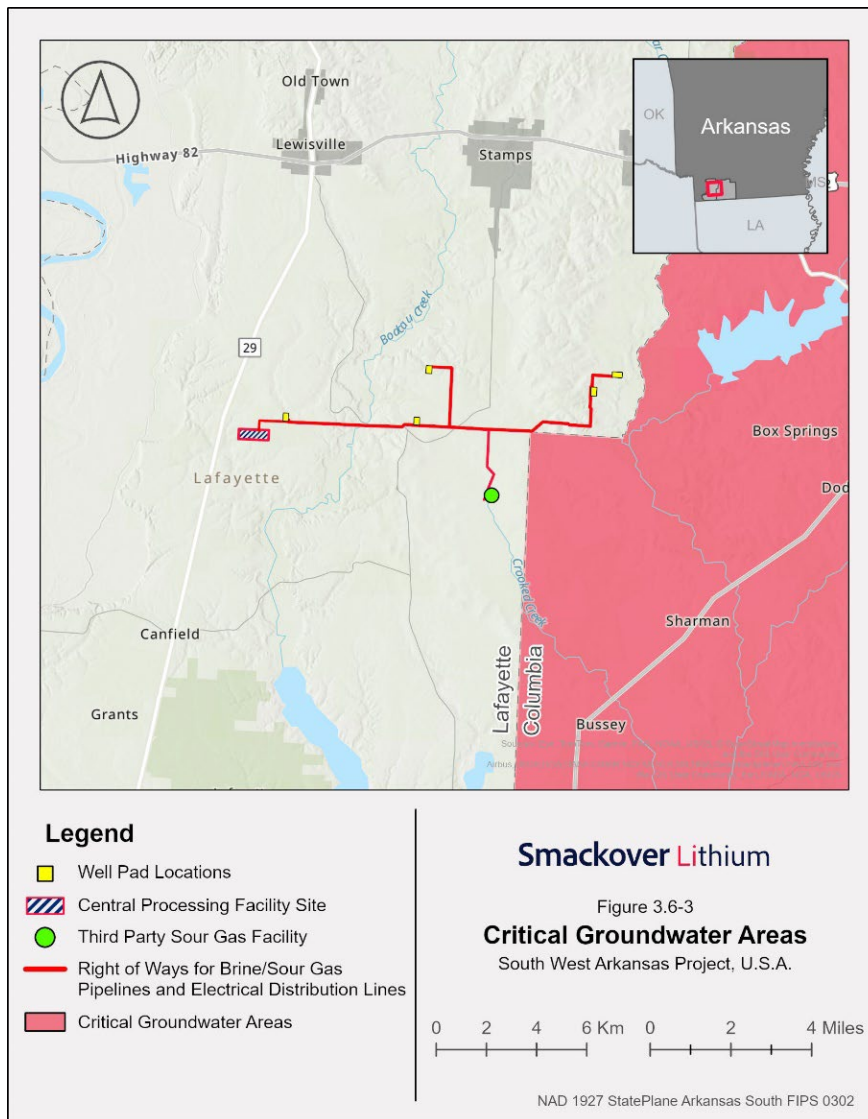


Ft = feet; km = kilometers

The Arkansas Department of Agriculture has designated three areas within the state as Critical Groundwater Areas (CGWAs). This is a non-regulatory designation intended to help focus attention and resources on areas most in need of conservation efforts. The South Arkansas CGWA includes the Sparta aquifer, and according to the Arkansas Department of Agriculture’s Groundwater Protection and Management Program map (ADA 2019), the easternmost well pad (Well Pad E) lies adjacent to the South Arkansas CGWA (Figure 3.6-3). Other Proposed SWA Project components including the CPF and the remaining portion of the wellfield lie outside the

CGWA boundary. Although Lafayette County is not currently designated as a CGWA under state law, Columbia County, the adjacent county to the east, is a CGWA. Given the long-term effects of pumping on the Sparta aquifer and the potential for compounding cones of depression, it is important to note that the site—while not within a designated CGWA—lies between two regions where depth to groundwater is significantly greater than in some other areas of the Sparta aquifer.

FIGURE 3.6-3: CRITICAL GROUNDWATER AREAS IN ARKANSAS



3.6.2 IMPACT ASSESSMENT

Central Processing Facility

Construction of the CPF would involve primarily shallow excavation and grading, with only a minimal, potential need for dewatering during installation of deeper foundations to address precipitation events. Given the absence of any known groundwater contaminants and the limited

need for dewatering, any temporary changes to subsurface flow or mobilization of contaminants in exposed soils are unlikely to affect groundwater quality and availability.

The Proposed SWA Project would construct four freshwater wells from the Sparta aquifer to meet demands for operation of the CPF, including three operational freshwater wells and one backup freshwater well. The total anticipated freshwater requirement, based on the FEED design, is estimated to be approximately 1,600 gpm during initial operation and increasing over the Proposed SWA Project life to approximately 1,700 gpm at peak brine production. The Proposed SWA Project has been designed to mitigate overall water demand through recycling of process water streams where practical. Specifically, reverse osmosis equipment would be employed to minimize freshwater demand by recycling approximately 85 percent of the water required for the DLE process unit operation. By recycling water in the DLE circuit, the water demand is reduced from 10,700 gpm to 1,700 gpm (a six-fold reduction in water demand).

As described in Section 3.13, Lafayette County has no significant heavy industry or other large industrial water demands that would have competing demands with the Proposed SWA Project for groundwater. The current proposed freshwater wells to supply process water are at the CPF site in Lafayette County, which is not identified as a CGWA. Overall, the 1-year, 5-year, and 10-year trends in groundwater elevations across the Sparta aquifer in Lafayette County generally show evidence of increasing water levels. Nevertheless, sustained withdrawal would create a radius of influence of drawdown surrounding the CPF site, potentially impacting other groundwater users and connected aquifers, particularly the overlying alluvial aquifer. Based on the Groundwater Availability Study prepared by Burns & McDonnell (2025), multiple irrigation, public supply, commercial supply, and domestic use wells are located within 5 miles of the Proposed SWA Project footprint that withdraw water from the Sparta aquifer or overlying deposits.

The desktop Groundwater Availability Study (Burns & McDonnell 2025) conducted for the Proposed SWA Project indicated that, although there is groundwater available regionally from the Sparta aquifer, there is not sufficient site-specific data to clearly determine the local aquifer yields at the CPF site. Further testing is planned to confirm the local aquifer yield and the feasibility of groundwater production at the CPF site for the Proposed SWA Project, with results expected in the second quarter of 2026. To estimate potential Proposed SWA Project impacts on local groundwater availability, a desktop analysis using the Hantush and Jacob (1955) equation for leaky confined aquifers was performed to estimate potentiometric surface drawdown in the Sparta aquifer from the proposed groundwater withdrawals at the CPF site. Studies suggest that the Sparta sands reach a thickness of nearly 300 feet and are fully saturated (Burns & McDonnell 2025). However, within the vicinity of the Proposed SWA Project footprint, existing well logs (USGS 2025b) suggest the Sparta sands may be several hundred feet below the surface with multiple clay layers overlying it. The hydraulic characteristics of the Sparta aquifer vary by location and formation thickness, with reported transmissivity values ranging from 1,800 to 17,400 square feet per day, hydraulic conductivity between 11 and 110 feet per day (Burns & McDonnell 2025), and an estimated storage coefficient of 0.0002 to 0.0024 for the confined portion of the aquifer. To assess potential impacts from the Proposed SWA Project's proposed groundwater use, it was assumed that pumping would occur from three of four freshwater wells constructed (one of the four freshwater wells would be for operational redundancy) in the aquifer, each with a continuous withdrawal rate of 600 gpm (combined 1,800 gpm). Most of the process water that is not recovered for recycling/reuse would be combined with the lithium-

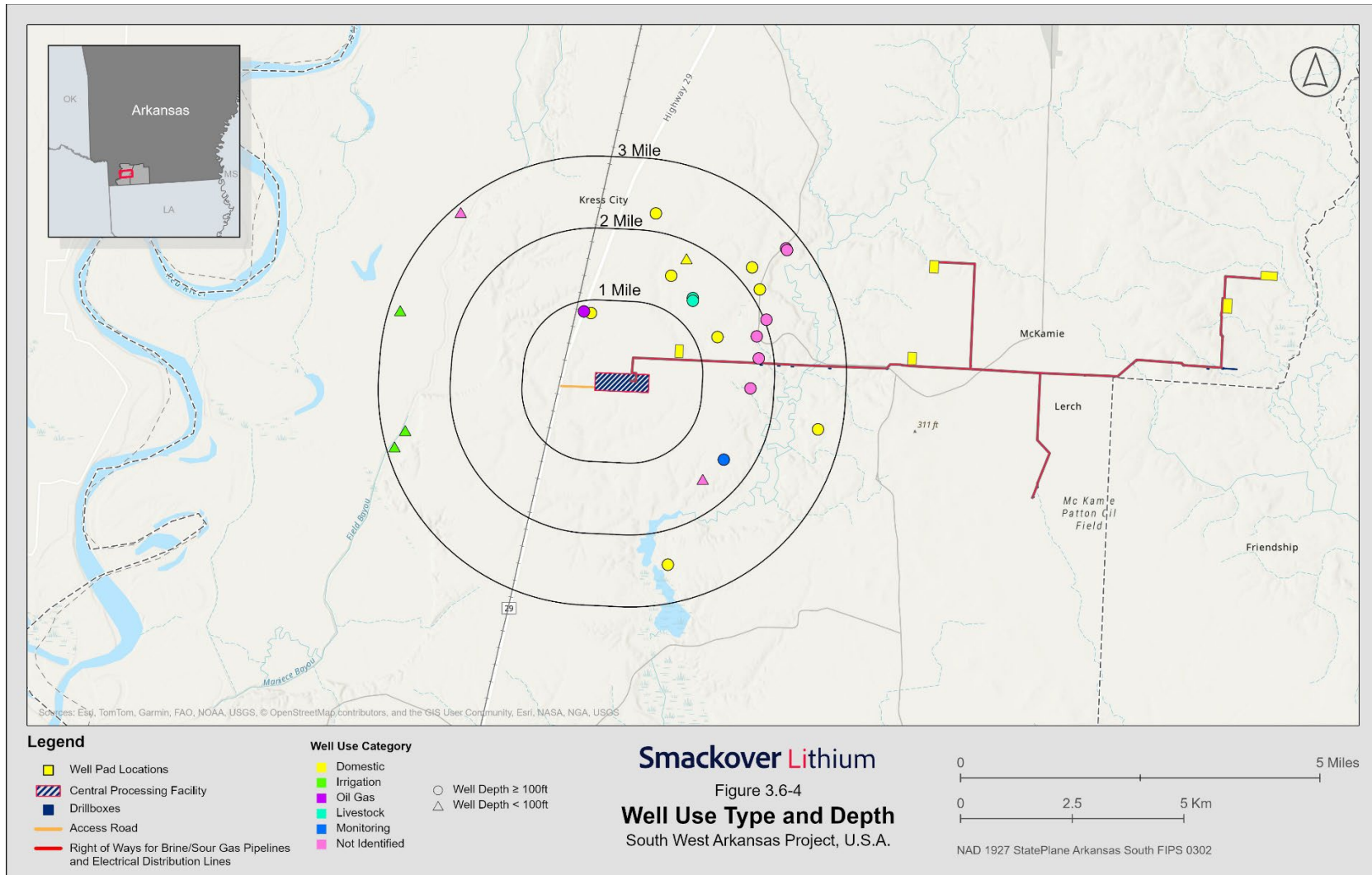
depleted brine stream and reinjected into the Smackover Formation via the brine injection wells in the wellfield, with a minor amount of water being permitted for surface discharge.

Applying a conservative approach using the minimum values within the ranges of hydraulic parameters reported, and assuming the predicted drawdowns are additive for the operating freshwater wells, after 20 years of operation, the projected decrease in the aquifer's potentiometric surface would be about 36 feet at a distance of 0.5 mile from the wells, approximately 15 feet at 1 mile, and less than 1 foot at 3 miles. This drawdown in the water level surface of the Sparta aquifer could cause vertical leakage from shallower aquifers within about 3 miles of the CPF site if the overlying clay aquitards are not sufficiently thick or impermeable. This vertical leakage could result in lowering the water level or reduced yield of shallow wells within this area.

Table 3.6-1 and Figure 3.6-4 summarize the wells within 3 miles of the CPF site and categorizes them based on depth and use based on U.S. Geological Survey well reports (USGS 2025b). Use types are categorized in the well reports as: domestic, irrigation, industrial, oil/gas, livestock, monitoring, and not identified (USGS 2025b). Well depth was categorized as shallow (<100 feet) or deeper (>100 feet) based on the typical maximum depths of wells completed in the alluvial aquifer in the analysis area versus those wells completed in the deeper terrace deposits and underlying formations. Potential impacts of the Proposed SWA Project on groundwater availability in the vicinity of the CPF site (i.e., well yield in wells near the CPF site) may be influenced by distance from the CPF site (location of the Proposed SWA Project's proposed process water wells) and well depth (whether the wells share the same aquifer zone and the available drawdown of the aquifer zone). Wells designated for domestic use warrant priority consideration for potential impacts from reduced groundwater availability due to user importance.

Within 3 miles of the CPF site, there are 25 wells (Table 3.6-1, Figure 3.6-4). Of these 25 wells, two occur just under 1 mile from the CPF site: both were developed by the Proposed SWA Project for prior exploration purposes and are not currently in use (Figure 3.6-4). Within 1 to 2 miles of the CPF site, there are 11 wells, of which 9 are deep (designated uses: 2 domestic and 7 other) and 2 are shallow (designated uses: 1 domestic and 1 other). Within 2 to 3 miles of the CPF site, there are 12 wells, of which 8 are deep (designated uses: 6 domestic and 2 other) and 4 are shallow (designated uses: 0 domestic and 4 other).

FIGURE 3.6-4: LOCATION AND TYPE OF WELLS WITHIN THREE MILES OF THE CENTRAL PROCESSING FACILITY SITE



CPF = Central Processing Facility; ft = feet

The Proposed SWA Project freshwater wells located at the CPF site would withdraw from the deeper aquifer zones. Shallow wells are unlikely to be significantly impacted by Proposed SWA Project withdrawals from the deeper aquifer due to overlying clay units that limit leakage and hydraulic connection. The few deep wells, if any, that would share the same aquifer zone as the Proposed SWA Project withdrawal source could experience limited drawdown (approximately 15 feet at 1 mile and less than 1 foot at 3 miles). This potential drawdown would represent less than 10 percent of the aquifer’s estimated available drawdown at these distances because these wells generally have several hundred feet of available water column; thus, overall impacts to groundwater from CPF operation are expected to be minor.

For purposes of this **Final** EA, it is assumed that the water needs of the CPF can be sustainably supported by the freshwater wells in the Sparta aquifer. As described above, further testing is planned to confirm the local aquifer yield and the feasibility of groundwater production at the CPF site for the Proposed SWA Project, with results expected in the second quarter of 2026. If this testing indicates that the Sparta aquifer beneath or in the immediate vicinity of the CPF site cannot sustainably support the CPF water needs, the Proposed SWA Project could consider construction of groundwater wells approximately 3 miles to the south or west of the Proposed SWA Project, which would source water directly from the Red River alluvium. Studies of the Red River Alluvial Aquifer suggest that the alluvial deposits extend approximately 2 miles or more east of the river (Hays et al. 2023). This alternative would require construction of an additional water pipeline between the wells and the CPF site. Using the same desktop analysis as described above for the CPF wells within the Sparta aquifer, the potential impact of sourcing freshwater from the Red River alluvium was evaluated. There are several high volume production wells completed in the Red River alluvium west of the CPF. For example, wells west of the Field Bayou River and to the southwest of the CPF are screened in the Red River alluvial deposits at depths of roughly 50 to 100 feet with groundwater yields upwards of 1,200 gpm. For example, records indicate a well located about 2.7 miles west of the CPF was installed in fine to coarse sand from 41 to 70 feet below grade. The well is reported to have a yield of 950 gpm. Using conservative, literature-based parameters for transmissivity, the projected decrease in the aquifer’s potentiometric surface at a distance of 0.5 mile from the wells would be about 9 feet and less than 1 foot at 3 miles. This analysis indicates that the Red River Alluvial Aquifer offers a viable alternative source to meet the Proposed SWA Project’s freshwater needs, should future testing indicate that the proposed sourcing from the Sparta aquifer is not achievable. If further testing indicates that wells within the Red River Alluvial Aquifer are needed to sustainably support the CPF, the installation of those wells and the water pipeline would require additional **NEPA** analyses and consultations beyond those found within this **Final** EA.

TABLE 3.6-1: WELL SUMMARY WITHIN THREE MILES OF THE CENTRAL PROCESSING FACILITY SITE

Wells	Total	< 100 ft Depth				≥ 100 ft Depth			
		All	Domestic	Public	Other	All	Domestic	Public	Other
Wells 0.5–1 mile	2	0	0	0	0	2	1	0	1
Wells 1–2 miles	11	2	1	0	1	9	2	0	7
Wells 2–3 miles	12	4	0	0	4	8	6	0	2
Total wells within 3 miles of the CPF site	25	6	1	0	5	19	9	0	10

CPF = Central Processing Facility; ft = feet

Wellfield

During construction, brine production wells would be drilled into the Smackover Formation to extract brine for the extraction process, and brine injection wells would be drilled to return lithium-depleted brine back into the formation. With proper management of the drilling process, particularly the casing and cementing operations, drilling and installation of deep (more than 8,000 feet) brine production and injection wells into the Smackover Formation would have little to no impact on groundwater resources. Operational impacts on deep groundwater resources in the Smackover Formation would be negligible, because lithium-depleted brine would be returned to the formation after the lithium is extracted, and deep groundwater resources in the Smackover Formation do not currently support other significant extractive uses. The potential for cross contamination between the Smackover and shallow aquifers is low to non-existent because the faults within the Proposed SWA Project area are layer-bound. The fault tips are within the Louann salt below and in the early Buckner above. Data indicates that they are not through-going and, as such, they are not connected to the overburden section. The larger ‘red fault’, which is south of the Proposed SWA Project area, is also interpreted to be layer-bound and does not extend shallower to freshwater zones.

Smaller, shallower wells (denoted as “well pad freshwater wells” in Table 2.1-2) would be drilled at each pad site to supply water for the drilling operation, and to supply water for maintenance needs once the Proposed SWA Project enters operation. Only the well pad freshwater wells on one of the well pads (Well Pad E) would be located within a state-designated CGA and only minor groundwater would be extracted from the freshwater wells on this well pad (infrequent withdrawal of 100 to 150 gpm during well maintenance and continuous withdrawal of 5 gpm to support chemical injection systems during operation). This amount of groundwater extraction is expected to have minor impact on groundwater resources.

Agency Consultation (Central Processing Facility and Wellfield)

DOE met with representatives from the Arkansas Department of Agriculture Division of Natural Resources on 12 January 2026 to generally discuss the Proposed SWA Project and regulatory/monitoring requirements associated with groundwater utilization. In particular, SWA Lithium would be required to register with the state of Arkansas and provide annual reports of water consumption (based on metering of groundwater wells) to the Division of Natural Resources in order to monitor regional groundwater level, calculate overall water consumption, and ascertain the need to utilize alternative sources of water. The Draft EA was sent to representatives from the Arkansas Department of Agriculture - Division of Natural Resources, Arkansas Oil and Gas Commission, and Arkansas Game and Fish Commission to review and provide comments on groundwater utilization (and the Proposed SWA Project as a whole). **The Arkansas Department of Agriculture’s Natural Resources Division responded with a request to clarify DOE’s scope of analysis for the EA (DOE confirmed that only the Proposed SWA Project was the focus of the EA) and requested that results of the Sparta aquifer freshwater study be sent to its office. SWA Lithium will adhere to this request.**

3.7 SURFACE WATERS, WETLANDS, AND FLOODPLAINS

3.7.1 AFFECTED ENVIRONMENT

Central Processing Facility

Surface Water

The CPF site is located within the Bodcau Bayou (or Bayou Bodcau) Watershed (Hydrologic Unit Code 11140205) (Figure 3.7-1 [Appendix E]) that extends southward into Louisiana. Bodcau Bayou is a tributary to the Red River, which eventually discharges into the Gulf of America.

A Wetlands and Waters Delineation of the CPF site was conducted in July 2025 (Trinity 2025c). One intermittent stream and nine ephemeral drainages were delineated within the site. A Jurisdictional Determination (JD) to confirm the extent and jurisdictional status of streams at the CPF site was issued by the USACE in September 2025 (Appendix B). These drainages begin as intermittent streams off-site and continue southward until they intersect with Bodcau Creek, approximately 2.2 miles south of the CPF site. According to the draft 2024 Impaired Waters 303(d) list, Bodcau Creek is a Category 5 stream² and is impaired for pH, turbidity, lead, and copper. Bodcau Creek continues to flow southward into Lake Erling, a man-made lake originally constructed in 1956 by the International Paper Company as a source of water for its mill in Springhill, Louisiana. In 2013, the ownership of Lake Erling was transferred to the American Gamebird Research Education & Development Foundation.

Wetlands

The 2025 Wetlands and Waters Delineation (Trinity 2025c) identified 17 emergent wetlands and four forested wetlands that occur partially or entirely on the CPF site. These features cover 44.5 acres within the survey area. **A Preliminary Jurisdictional Determination (PJD)/Approved Jurisdictional Determination (AJD) was completed by USACE in September 2025 to determine the extent and jurisdictional status of all aquatic resources.**

Floodplains

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FEMA 2025), the area containing the CPF site has not been mapped; however, a site-specific Floodplain Analysis Report was prepared by Trinity Consultants (Trinity 2024) to evaluate the flood potential across the CPF site. This analysis was based on the base floodplain elevation data obtained from FEMA, which meet FEMA standards for flood risk studies. The analysis indicated that some portions of the undeveloped CPF site may be susceptible to the 1 percent annual flood probability hazard area (also referred to as to 1 percent flood zone or the 100-year floodplain), particularly along intermittent streams (Figure 3.7-2 [Appendix E]).

² Under Arkansas Division of Environmental Quality Rule 2, a Category 4b waterbody is one in which “water quality standards are not attained for one or more designated uses, but the development of a total maximum daily load (TMDL) is not required because a TMDL has been completed for the listed parameter(s)” and a Category 5 waterbody is one in which one or more water quality standard is not being attained ([Assessment of Waters of the State Program | Water | DEQ](#)).

Wellfield

Surface Waters

The 2025 Wetlands and Waters Delineation of the wellfield area (Trinity 2025d) one perennial stream (Bodcau Creek), 11 intermittent streams (including Mill Creek and Crooked Creek), and 28 ephemeral drainages in the wellfield area. **A PJD/AJD was completed by USACE in September 2025 to determine the extent and jurisdictional status of all aquatic resources.**

Wetlands

The 2025 Wetlands and Waters Delineation of the wellfield area (Trinity 2025d) identified 15 emergent wetlands, 50 forested wetlands, and eight scrub-shrub wetlands that occur partially or entirely within the wellfield area. These features cover 84 acres. **Most of these wetlands (approximately 65 acres) are isolated (i.e., do not maintain a continuous surface connection to the downstream traditional navigable water) and, therefore, are not regulated by the USACE under Section 404 of the Clean Water Act (CWA).** The remaining wetlands are expected to be jurisdictional (~12 acres). **A PJD/AJD was completed by USACE in September 2025 to determine the extent and jurisdictional status of all aquatic resources.**

Most of the delineated wetlands in both the wellfield and CPF site are highly disturbed due to historic and ongoing silviculture operations. The wellfield area also contains areas of farming that disrupt the natural landscape. The only exceptions where more natural wetlands remain are the forested wetlands located along intermittent streams and Bodcau Creek, which have been less impacted by human activity.

Floodplains

As described for the CPF site, the FEMA Flood Insurance Rate Map is not available for the area containing the wellfield; however, a site-specific Floodplain Analysis Report was prepared by Trinity Consultants (Trinity 2024) to evaluate the flood potential across the wellfield area. The analysis indicated that some portions of the wellfield may be susceptible to the 1 percent flood zone, particularly along permanent and intermittent streams (Figure 3.7-2 [Appendix E]).

3.7.2 IMPACT ASSESSMENT

Central Processing Facility

Surface Water

Construction of the site access road for the CPF would require a minor stream crossing within the CPF site, which would be permitted with a Nationwide Permit issued by the USACE. Operation of the CPF would not require the use of surface water, as process water and make up water required for CPF operation would be provided by groundwater from freshwater wells. Discharges from the CPF during operation, including filter backwash water from the water treatment plant, indirect cooling tower blowdown, and retentate from the reverse osmosis system, would be discharged in accordance with state permitting requirements at an average discharge rate approximately 690 gpm (Section 3.10.2). As such, construction and operation of the CPF would have a minor impact on surface water.

Wetlands

Construction and operation of the CPF would not impact jurisdictional wetlands. The CPF layout was established to avoid impacts to jurisdictional wetlands.

Floodplains

The flood risk analysis completed for the CPF site (Trinity 2024) indicates the site contains some areas within the 1 percent flood zone. Development within flood zones can increase flood risk by reducing natural flood absorption areas, causing water to be displaced, and potentially leading to higher and more damaging floods for both the new development and nearby properties.

During design, the CPF layout was defined to avoid the wetter areas of the 118-acre parcel (specifically the eastern portion of the site) and to avoid areas within the 1 percent annual flood probability hazard area, as defined in the site-specific flood analysis (Trinity 2024). The finished grade of the CPF would be above the expected flood inundation elevation. The site design would include a Stormwater Management Plan designed specifically to manage stormwater flow and avoid or minimize stormwater runoff-related impacts to surrounding properties. Based on these design features, impacts and risks related to flooding are considered negligible.

Wellfield

Surface Water

Construction of the wellfield would impact between 1,000 to 2,400 linear feet (up to 1.4 acres) of jurisdictional streams prior to design optimization, which is ongoing to minimize impacts to jurisdictional streams. Unavoidable impacts to jurisdictional streams would be permitted by the USACE pursuant to Section 404 of the CWA and involve mitigation where required. Operation of the wellfield would not require the use of surface water and no discharges to surface water, other than minor permitted stormwater discharges, from the wellfield would occur. As such, impacts on surface waters from development of the wellfield would be minor, and there are not expected to be impacts from operation of the wellfield.

Wetlands

Construction of the wellfield would impact up to 12.2 acres of jurisdictional wetlands prior to design optimization, which is ongoing to minimize impacts to jurisdictional wetlands, includes consideration of the following measures to avoid or minimize impacts to jurisdictional wetlands:

- Use of HDD for installation of pipelines under some jurisdictional wetlands and streams (e.g., Bodcau Creek, Mill Creek, and select other locations);
- Aligning the pipeline ROW with county roads and eliminating permanent roads on portions of the ROW where practical; and
- Reducing ROW widths where adjacent third-party rights-of-ways allow.

Unavoidable impacts to jurisdictional wetlands would be permitted by the USACE as described above for streams. Operation of the wellfield would not impact wetlands.

Floodplains

The wellfield pipelines would be buried so would not be subject to risks from flooding, except during construction, and their presence would not exacerbate flooding. The siting and design of the well pads avoided the 1 percent flood zone, and the wells are designed to withstand temporary flooding. The footprint of each of the five well pads is small (approximately 10 acres each of permanent disturbance, with an additional 5 acres of temporary impacts during construction), they are spread across a large area, and would include stormwater management features, so the new impervious surface created by the well pads would not significantly increase flood risk or alter flood attenuation capacity of the surrounding area. As such, impacts and risks related to flooding are considered negligible.

Summary of Impact Avoidance and Minimization Measures for Jurisdictional Wetlands and Surface Waters

The Proposed SWA Project has used the mitigation hierarchy (avoid, minimize, mitigate) to minimize impacts to jurisdictional wetlands and waterbodies. Below is a summary of the impact minimization approach for both the CPF and wellfield areas:

- **Avoid:** The CPF site was selected based on proximity to existing infrastructure as well as avoiding low lying areas, wetlands, and streams and minimizing impacts to cultural resources. Each well pad was similarly selected based on a defined envelope of well bore reach whilst avoiding low lying wet areas, local residences, and any observed cultural resources. Wetland and waterbody delineations and desktop flood mapping confirmed that the above approach successfully avoided or minimized the placement of facilities or equipment in jurisdictional wetlands and floodplain areas (Figure 3.7-2 [Appendix E]) for both the CPF and well pad sites. For example, the initial layout for Well Pad E contained 0.3 acres of jurisdictional wetlands; however, the engineering design has been updated to avoid impacts to this wetland.
- **Minimize:** Pipeline and powerline routes were optimized to minimize impacts to jurisdictional features by following the most direct routes (minimizing land impacts, while avoiding low lying wetland areas to the extent practicable). Landowner requests regarding ROW location were also considered. Further, ROW widths were reduced for the pipeline and powerline corridors by using HDDs in some locations, aligning ROWs with county roads where possible to eliminate need for additional road clearing, and aligning ROWs with other third-party rights-of-ways where possible. Some portions of the ROW containing jurisdictional wetlands and streams would have non-mechanized tree felling with roots left in place to minimize permanent loss of jurisdictional wetlands.
- **Mitigate:** Mitigation measures to address unavoidable residual impacts include planned seasonal construction such as open cutting pipeline trenches across intermittent streams during dry months to avoid sedimentation impacts, preservation of unused areas of CPF site in the current undeveloped state, and purchase of credits from USACE approved mitigation banks in association with federal (i.e., USACE) wetland permitting.

Agency Consultation (Central Processing Facility and Wellfield)

DOE initiated consultation with the USACE Vicksburg District regarding the Proposed SWA Project's potential impacts on federally jurisdictional wetlands and waterbodies on 26 September

2025 and also provided wetland delineation reports for the CPF and wellfield areas to the USACE for review. DOE also provided a preliminary version of the Draft EA to the USACE to provide general comments and recommendations on the contents of this chapter. The USACE provided a Preliminary Jurisdictional Determination and Approved Jurisdictional Determination regarding the Proposed SWA Project to SWA Lithium and DOE (Appendix B). Based on this Preliminary Jurisdictional Determination and Approved Jurisdictional Determination, the Proposed SWA Project is expected to be subject to permitting and regulation under Section 404 of the Clean Water Act. **A copy of the Draft EA was sent to the USACE Vicksburg District for review and comment. The USACE Vicksburg District responded with minor edits to this Surface Waters, Wetlands, and Floodplains chapter. Revised content resulting from USACE comments is noted in bold within this chapter.**

3.8 VEGETATION AND WILDLIFE

3.8.1 AFFECTED ENVIRONMENT

Central Processing Facility

Vegetation Communities and Habitats

The CPF site was previously managed for silviculture and was cleared of harvestable timber during fall/winter of 2023 by a prior owner. A biological survey to document habitat conditions and determine the potential for use by federally listed threatened and endangered species, which are protected under the U.S. Endangered Species Act, was conducted at the CPF site in June 2025 (Trinity 2025b). This survey also included an assessment of habitat suitability for state-listed species and presence of state-designated sensitive habitats as well as migratory birds and bald and golden eagles, which are protected under the U.S. Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act, respectively.

Having recently been harvested for timber, the CPF site currently contains early successional vegetation, including four primary vegetation communities (Trinity 2025b):

- **Recent clearcut uplands**: Early successional upland is the dominant vegetation community at the CPF site. This vegetation community contains a mix of grasses and herbaceous vegetation species, with early pioneer tree saplings and shrubs starting to emerge.
- **Emergent wetlands**: Small, mostly hydrologically isolated pockets of emergent wetlands occur throughout the CPF site where prior disturbance from logging created depressions that allowed wetlands to develop. These areas contain a mix of herbaceous species.
- **Forested wetlands**: Forested wetlands dominate the eastern portion of the CPF site in areas that were not cleared during the last timber harvest. These wetlands contain a mix of deciduous trees and herbaceous species commonly associated with forested wetlands in this region.
- **Riparian forest**: Riparian forest (another type of forested wetland) occurs along the banks of ephemeral and intermittent streams where logging did not occur (streamside management zones). This community contains a different species mix, including both deciduous and coniferous (evergreen) tree species and shrubs.

All vegetation communities and habitat observed in and near the CPF site have been subjected to moderate to intensive human disturbance resulting from silviculture and large accumulations of woody debris (treetops and limbs from timber harvesting) are still present throughout the CPF site. No unique habitats were documented within the CPF site during the survey. The highest value habitats at the CPF site were those not previously impacted by timber harvest and within narrow strips of natural vegetation along the southern and western site boundaries.

Protected Species

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool documented the following federally listed species and species that are proposed or candidates for listing as potentially occurring in and around the CPF site and wellfield:

- Indiana bat (*Myotis sodalis*), Endangered
- Northern long-eared bat (*Myotis septentrionalis*), Endangered
- Tricolored bat (*Perimyotis subflavus*), Proposed Endangered
- Eastern black rail (*Laterallus jamaicensis*), Threatened
- Piping plover (*Charadrius melodus*), Threatened
- Rufa red knot (*Calidris canutus rufa*), Threatened
- Alligator snapping turtle (*Macrochelys temminckii*), Proposed Threatened
- Monarch butterfly (*Danaus plexippus*), Proposed Threatened

Of the species listed above, the three bat species (Indiana bat, northern long-eared bat, and tricolored bat) have the highest potential to occur within the CPF site based on habitat conditions. These bat species inhabit a variety of upland and wetland forest types, particularly those near open water, and emergent wetlands with a sedge component. An acoustic bat survey of the CPF site and wellfield was conducted in July and August 2025 (ESI 2025) to document the presence/probable absence of federally listed bat species. The survey documented the presence of Indiana bat (Federal Endangered) and tricolored bat (Proposed Federal Endangered).

Additionally, the eastern black rail has the potential to occur within emergent wetlands with a sedge component at the CPF site; however, this species has not been previously documented in Lafayette County. This species is difficult to detect due to its secretive nature, so the lack of records for this species in the county does not necessarily reflect absence of the species from the area. Nevertheless, the extent of potentially suitable habitat within the CPF site for eastern black rail is limited and the species generally avoids disturbed areas so any use of the site by the species would be expected to be limited in nature.

The survey determined that the CPF site and surrounding area lacks suitable habitat for bald and golden eagles except for potential occasional transient use.

The CPF site contains suitable habitat for some species of migratory birds covered under the MBTA. The USFWS maintains a list of birds covered by the MBTA with the highest conservation concern, referred to as Birds of Conservation Concern. Based on the habitat conditions present within the CPF site and the survey results, Birds of Conservation Concern that could occur there include:

- Chimney swift (*Chaetura pelagica*)

- Kentucky warbler (*Geothlypis formosa*)
- Pectoral sandpiper (*Calidris melanotos*)
- Wood thrush (*Hylocichla mustelina*)
- Prairie warbler (*Setophaga discolor*)
- Chuck-will's-widow (*Antrostomus carolinensis*)

A search of the Arkansas Natural Heritage Commission (ANHC) database returned records for nine tracked species and one tracked plant community within 5 miles of the CPF site, although none was previously recorded within the CPF site. Of these species, one animal species and three plant species were considered most likely to occur at the CPF site based on habitat conditions (Trinity 2025b):

- Frosted elfin butterfly (*Callophrys irus hadros*)
- Blueberry hawthorn (*Crataegus brachyacantha*)
- Slender marsh-elder (*Iva angustifolia*)
- Celestial lily (*Nemastylis geminiflora*)

Of these species, only blueberry hawthorn was observed on and just outside the CPF site (one stem observed on the CPF site and one tree observed outside the site boundary). Additionally, two species not included in the ANHC record search were documented on the CPF site: Wolf's spikerush (*Eleocharis wolfii*) and Roanoke witchgrass (*Dichanthelium roanokense*). The Roanoke witchgrass is not a state-listed species but is considered locally rare.

Wellfield

Vegetation Communities and Habitats

A biological survey to document habitat conditions and determine the potential for use by federally and state-listed species and the presence of sensitive habitats was conducted in the wellfield area in June and July 2025 (Trinity 2025c). The survey documented eight distinct vegetation communities and habitat types in the wellfield, all of which have been disturbed by silviculture and other anthropogenic activities. The habitat types include:

- Commercial pine forest: Commercial pine forest stands of various ages characterized by a monoculture of pine in the overstory and poorly formed, shade-tolerant hardwoods in the subcanopy.
- Recent clearcut uplands: This vegetation community contains a mix of grasses and herbaceous vegetation species, with early pioneer tree saplings and shrubs starting to emerge.
- Emergent wetlands: Small, mostly hydrologically isolated pockets of emergent wetlands occur throughout the wellfield where prior disturbance from logging created depressions that allowed wetlands to develop. These areas contain a mix of herbaceous species.
- Scrub-shrub wetlands: Scrub-shrub wetlands are scattered throughout the wellfield, as an intermediate stage of ecological succession between emergent and forested wetlands.

- Forested wetlands: Forested wetlands occur in stream overflow areas and in depressions with prolonged hydroperiods. This community type can be planted in pine monoculture or contain a more natural mix of species.
- Riparian forest: Riparian forest occurs along the banks of streams where logging did not occur (streamside management zones) for following abandonment of agricultural lands. This community contains a different species mix, including both deciduous and coniferous (evergreen) tree species and shrubs. In occurrences of this community along Bodcau Creek, some trees are several hundred years old and greater than 3 feet in diameter.
- Pine-Hardwood Forest: This community type occurs on slopes and level terraces where timber has regenerated naturally after timber harvest or abandonment of agricultural lands. This system was historically the dominant forest type across this ecoregion, but it is now limited in area and highly fragmented.
- Man-made Openings: Open habitats occur along roadsides, log landings, utility corridors, agricultural fields, and pastures.

No unique or rare habitats were observed in the wellfield area. Small areas supporting higher species diversity were observed in a few locations, notably the eastern end of the wellfield and around the Bodcau Creek crossing.

Protected Species

The USFWS IPaC indicated the same federally listed species and species that are proposed for listing as at the CPF site as potentially occurring in and around the wellfield. As with the CPF site, federally listed and proposed bat species (Indiana bat and tricolored bat) were documented via acoustic survey at the wellfield and suitable roosting and foraging habitat for these species, as well as the northern long-eared bat, occurs throughout the area (ESI 2025). The protected species habitat survey (Trinity 2025c) of the wellfield yielded similar results to that of the CPF site (Trinity 2025b), with few exceptions described below.

- Suitable habitat for alligator snapping turtle (*Macrochelys temminckii*, proposed for federal listing as Threatened) was observed in two streams that cross the wellfield area, Bodcau Creek and the intermittent reach of Crooked Creek. These streams have large, deep pools and potentially support this species.
- Two areas within the wellfield supported habitat suitable for bald eagle: Bodcau Creek features expanses of open water and large, mature trees suitable for bald eagle nesting and the intermittent reach of Crooked Creek provides areas of open water with trees large enough for eagles to use. No eagles or eagle nests were documented during the field survey.

A search of the ANHC database returned records for several tracked species and one tracked plant community within 5 miles of the wellfield: four species were on record for occurring within one mile of the wellfield. No tracked species was previously recorded within the wellfield. The field survey (Trinity 2025c) documented the tricolored bat, as described above, as well as three plant and one fish species that are tracked by ANHC within the wellfield survey area, as follows.

- Blueberry hawthorn (*Crataegus brachyacantha*) was found at three locations within the wellfield survey area. While it is rare in Arkansas, it is locally common in Lafayette County.

- Silky oat-grass (*Danthonia sericea*) was found at one location in the eastern portion of the wellfield. While it is tracked by ANHC as Critically Imperiled in Arkansas, it is locally common in Lafayette County.
- Sebastian bush (*Ditrysinia fruticosa*) was expected, based on the ANHC records, to be found in the Bodcau Creek floodplain and the field survey confirmed a local population of this species within the proposed pipeline ROW on the west side of Bodcau Creek. In Arkansas, the species is currently only known to occur in Lafayette County and is tracked by ANHC as Critically Imperiled. The species occurs patchily in Louisiana and Arkansas is at the northern edge of its known range.
- One fish species, goldstripe darter (*Ethostoma parvipinne*), has been recorded by ANHC within one mile of the wellfield. This species inhabits clay and sand-bottomed, vegetated, spring-fed headwater streams and small creeks. This species was not observed during the field survey of the wellfield, as a fish survey was not conducted, but the survey documented suitable habitat for the species in creeks in the eastern end of the wellfield.

3.8.2 IMPACT ASSESSMENT

Central Processing Facility

Vegetation Communities and Habitats

The CPF site was recently clearcut by the previous owner prior to purchase by SWA Lithium, so construction of the CPF and the site access road would result in loss of approximately 86 acres of disturbed, primarily early successional vegetation. The remainder of the CPF site (approximately 40 acres) east of the CPF footprint would remain natural and continue to provide habitat for forest dwelling species. Operation of the CPF would not impact vegetation communities or habitats as operational activities would not result in additional or ongoing habitat loss or degradation post-construction.

Protected Species

Impacts to protected species related to construction of the CPF primarily relate to habitat loss and disturbance. Since the CPF site was recently cleared, the site is highly disturbed and contains primarily early successful vegetation with only remnant areas of more mature natural habitat. Despite this condition, acoustic surveys documented the Indiana bat (Federally Endangered) and tricolored bat (Proposed Federally Endangered) at the site. Pursuant to the NEPA process, DOE initiated consultation with the USFWS regarding impacts to federally listed species (see Agency Consultation section below).

Impacts from construction of the CPF to the three state-tracked plant species documented on the CPF site would be avoided based on the species' location outside the construction footprint or minimized to the extent practicable. The extent of these species on the CPF site is minimal and each species is known to occur in the surrounding area. As such, impacts to these species from construction of the CPF are expected to be minor or negligible.

Operation of the CPF would not result in additional or ongoing habitat loss or degradation. Impacts during operation would be limited to anthropogenic disturbance (noise, human activity, traffic, etc.) and would be limited in nature given the size and nature of the Proposed SWA Project.

Wellfield

Vegetation Communities and Habitats

Installation of the wellfield would result in loss or conversion of approximately 321 acres of vegetation, most of which is commercial pine forest and pine-hardwood forest or recent clearcut (Table 3.8-1). Of the 321 acres, 72 acres would be impacted by the well pads, and 250 acres would be impacted by the pipelines. This acreage includes temporary construction impacts and permanent impacts. Permanent loss of vegetation would be limited to the area covered by the well pads (roughly 10 acres each or 50 acres, excluding temporary workspace during construction that would revert to natural conditions post-construction). Installation of the pipeline would involve conversion of habitat, primarily from commercial pine and pine-hardwood forest to early successional habitat, which would be established post-construction and maintained throughout the life of the Proposed SWA Project.

TABLE 3.8-1: IMPACTS TO VEGETATION FROM INSTALLATION OF THE WELLFIELD

Vegetation Community	Pipeline Impacts (acres)	Well Pad Impacts (acres)	Total
Developed Open Space	10.54	0.00	10.55
Developed Low Intensity	3.17	0.00	3.17
Developed Medium Intensity	0.11	0.00	0.11
Deciduous Forest	6.96	0.00	6.96
Evergreen Forest	187.73	68.84	256.57
Mixed Forest	4.61	1.67	6.28
Shrub or Scrub	7.00	0.00	7.00
Grassland or Herbaceous	7.77	0.00	7.77
Pasture or Hay	5.83	1.35	7.17
Cultivated Crops	1.67	0.00	1.67
Woody Wetlands	14.05	0.00	14.05
Total	249.44	71.86	321.30

*Includes features not considered jurisdictional under the U.S. Clean Water Act. Impacts to jurisdictional features would be permitted by the USACE, as described in Section 3.7 above.

Protected Species

Impacts to protected species from installation of the wellfield primarily relate to habitat loss or conversion and habitat degradation due to anthropogenic activity. Roughly 321 acres of habitat, primarily commercial forest and pine-hardwood forest, would be lost (within the well pads) or converted to early successional vegetation (within pipelines). As discussed for the CPF site, acoustic surveys documented the Indiana bat (Federally Endangered) and tricolored bat (Proposed Federally Endangered) in the wellfield. The only other federally listed or proposed species likely to occur within the wellfield based on habitat conditions are the northern long-eared bat and the alligator snapping turtle. The northern long-eared bat was not detected during acoustic surveys of the wellfield in summer 2025 but the wellfield contains ample suitable habitat for and lies within the geographic range of the species. The alligator snapping turtle could occur in Bodcau Creek and the intermittent reach of Crooked Creek. The Proposed SWA Project plans to construct the pipeline crossings across Bodcau Creek and Crooked Creek using HDD and dry cut techniques, respectively, avoiding impacts to this species, if present. The bald eagle, protected under the Bald and Golden Eagle Protection Act, also could occur in portions of

Bodcau and Crooked Creeks, but since no bald eagle nests are present in this area, no impact to this species would occur.

Regarding state-tracked species, blueberry hawthorn occurs at three locations within the wellfield and silky oat-grass occurs at one location in the eastern portion of the wellfield. Both species are locally common in Lafayette County, and the wellfield contains few individual plants of each species. Impacts to these species would be avoided through siting or minimized to the extent practicable so any impacts to these species would not be significant at the population level.

A locally significant population of Sebastian bush occurs in the Bodcau Creek floodplain within the proposed pipeline ROW on the west side of Bodcau Creek. Field survey conducted for the Proposed SWA Project and discussions with local experts indicate that within southwest Arkansas, the species occurs sporadically throughout the Bodcau Creek floodplain (within and outside the Proposed SWA Project area) and is likely more widespread within suitable bottomland and riparian forests than currently documented due to lack of systematic survey for the species in Arkansas. The species full geographic range is from North Carolina south to central peninsular Florida and west to eastern Texas and southwestern Arkansas (NCBG 2025). SWA Lithium considered routing and engineering options to minimize impacts on this population, including reducing the width of the cleared pipeline and distribution line corridor to minimize the amount of vegetation clearing and avoid, to the maximum extent practicable, direct impacts to Sebastian bush. As a result of this design optimization, direct impacts to Sebastian bush would be limited to approximately 50 individual plants. This amount of impact is small based on the documented abundance of the species within and in the vicinity of the Proposed SWA Project pipeline ROW, the expected occurrence of the species throughout the Bodcau Creek floodplain and similar habitats in southwestern Arkansas, and given the much larger geographic range of the species outside Arkansas.

Suitable habitat for the state-tracked fish species, goldstripe darter, occurs in several creeks in the eastern end of the wellfield. SWA Lithium is evaluating options to avoid impacts to streams containing suitable habitat for goldstripe darter through HDD or dry construction techniques. If this is achievable, the Proposed SWA Project would have no impact on this species. If traditional construction methods are implemented at these crossings, best management practices for stormwater management to control sediment transport into streams and restoration of stream crossings after construction would be conducted to minimize impacts to stream habitat. As such, impacts to this species are expected to be negligible.

Operation of the wellfield would not result in additional or ongoing habitat loss or degradation and human activity at the wellfield during operation would be low. Impacts during operation would be limited to maintenance and related minimal anthropogenic disturbance. The pipeline ROW would be maintained in an early successional state and so could benefit species that prefer this type of habitat, such as monarch butterfly.

Agency Consultation (Central Processing Facility and Wellfield)

On 23 September 2025, DOE reached out to representatives of the Arkansas Ecological Services Field Office (a field office of the USFWS) to initiate discussions and informal consultation under Section 7 of the Endangered Species Act regarding the Proposed SWA Project. DOE provided a description of the Proposed SWA Project (including maps of the area of potential effect)

(Appendix B) and followed up with copies of the threatened and endangered species field survey and acoustic bat reports described above, and preliminary IPaC species lists and Determination Keys for threatened and endangered species potentially impacted by the Proposed SWA Project. DOE followed up with Arkansas Ecological Services Field Office representatives on 17 December 2025 with updated IPaC species lists and Determination Keys (Appendix B). Based on DOE's review of field survey reports, the USFWS Determination Keys for applicable species, and discussions with the Arkansas Ecological Services Field Office, DOE's **initial** Determination of Effect for federally designated threatened or endangered species **was** as follows:

- **May effect:** Indiana bat
- **Not likely to adversely effect:** Northern long-eared bat, Eastern black rail, piping plover, rufa red knot
- **No jeopardy:** Tricolored bat, alligator snapping turtle, monarch butterfly

DOE initiated formal consultation with the Arkansas Ecological Services Field Office due to the “may effect” determination above **on 23 January 2026, and the Arkansas Ecological Field Service concurred with DOE's formal consultation initiation via letter on 28 January 2026 (Appendix B). In this letter, the USFWS Arkansas Ecological Services Field Office confirmed that forested habitat in the project area was identified as occupied roosting, foraging, and commuting habitat for the Indiana bat, and that SWA Lithium's Proposed SWA Project will require removal of this habitat, which could result in adverse effects to the species. This letter also confirmed SWA Lithium's intent to address the potentially adverse effects through a voluntary contribution to the Arkansas Bat Fund, which is a recovery-focused conservation option in the USFWS Bat Conservation Strategy for the State of Arkansas. The USFWS completed a Biological Opinion (BO) that supports the Bat Conservation Strategy and determined that the Proposed SWA Project is likely to adversely affect the species but is not likely to jeopardize its continued existence. The USFWS determined that the Proposed SWA Project is consistent with the actions evaluated in the BO, and that the proposed contribution to the Arkansas Bat Fund is appropriate to address adverse effects to the species.**

The USFWS also noted in this letter that the take exemption for the Indiana bat in the BO is applicable to the Proposed SWA Project, and any incidental take of this species from forested habitat removal associated with the Proposed SWA Project is not prohibited (Appendix B). The USFWS also provided a letter to DOE on 13 February 2026 confirming receipt of Standard Lithium's contribution to the Arkansas Bat Fund, and that receipt of this contribution completes the recovery-focused conservation option. In the letters from USFWS dated 28 January 2026 and 13 February 2026, the USFWS also acknowledged DOE's “no jeopardy” determination for the alligator snapping turtle, monarch butterfly, and tricolored bat; confirmed concurrence for all other listed species expected to occur within the action area (based on the USFWS technical assistance letter dated 17 December 2025); and confirmed that Section 7 consultation requirements for all species that are expected to occur in the action area have been met. The USFWS stipulated that reinitiating consultation is required if the amount or extent of incidental take is exceeded, if new information reveals that the Proposed SWA Project may affect listed species or designated critical habitat not previously considered, if the Proposed SWA Project is modified in a manner that may cause effects to listed species or designated critical habitat, or if a new

species is listed or critical habitat designated that the Proposed SWA Project may affect (Appendix B). SWA Lithium and DOE will adhere to these stipulations. Additionally, all brine storage tanks would be covered with a closed roof type design, and any raw water tanks would be covered with a roof or screens to deny access to bats. **The USFWS had no further comments on the Draft EA.**

3.9 REGULATED WASTE (SOLID AND HAZARDOUS WASTE)

3.9.1 AFFECTED ENVIRONMENT

Central Processing Facility and Wellfield

The CPF site and wellfield are currently undeveloped and do not contain or generate any industrial regulated waste. Lafayette County does not operate a centralized municipal waste collection system. Waste disposal is managed through private haulers or individual arrangements, coordinated under the Upper Southwest District. The Lafayette County Transfer Station, located near the Proposed SWA Project footprint, is the primary facility for receiving municipal solid waste and yard waste, which is then transported to a regional landfill for final disposal. The Columbia County Landfill is equipped to accept construction and demolition debris, auto tires, and yard waste for disposal in its Class 4 landfill. There are several accredited commercial non-hazardous waste disposal organizations operating in southern Arkansas.

3.9.2 IMPACT ASSESSMENT

Central Processing Facility

SWA Lithium applies a “circular economy” approach to construction whenever possible by prioritizing choices and practices regarding construction materials that minimize resource consumption and reuse materials. Waste generated during construction would be managed according to local, state, and federal regulations and site-specific construction plans, as appropriate and an estimate is provided in Table 3.9-1. The construction contractor’s construction plans would include waste management practices in accordance with federal, state, and local laws and SWA Lithium’s overarching waste minimization approach.

The Proposed SWA Project would generate minimal amounts of waste. The Proposed SWA Project would generate non-hazardous waste that would require management and safe disposal. The softening process acts to remove impurities from the lithium chloride stream, including calcium and magnesium ions. The Proposed SWA Project base case is to combine this stream back into the effluent brine tank for reinjection. Alternatively, this sludge may be disposed of as solid waste in an accredited disposal facility. Sludge generated from operation of the on-site Wastewater Treatment Plant (WWTP) as well as waste generated from the lithium extraction process would be collected and transported off-site to a properly permitted facility. SWA Lithium has an Environmental and Social Governance strategy and associated policies that would apply during production at the CPF. These plans emphasize managing potential environmental risks by setting environmental objectives to prevent pollution, manage and minimize waste, use and resources sustainably. In accordance with these policies and procedures, waste generated during operations would be characterized, handled, and managed by SWA Lithium in accordance with local, state, and federal regulations.

The Proposed SWA Project would not generate hazardous waste as part of the lithium extraction process, but small quantities of hazardous waste (e.g., oil and grease) could be generated during CPF or wellfield maintenance activities and is expected to be less than 220 pounds per month. SWA Lithium would apply for an USEPA Generator ID as a very small quantity generator of hazardous waste and manage all such waste in accordance with all regulatory requirements. Table 3.9-1 includes the expected waste streams and amounts that would be generated from facility operations below.

TABLE 3.9-1: ESTIMATED WASTE GENERATION DURING CONSTRUCTION AND OPERATION

Waste Stream	Generation Source	Estimated Amount Generated
Construction		
Construction waste	Concrete, steel, piping, cable, packaging and construction materials, etc. Minor amounts of oil/lubricants	30 tons during construction period
Operation		
Non-hazardous solid waste	Filtered solids and insoluble materials that cannot be redissolved for reinjection Maintenance and cleaning waste	2,000 tons per year
Non-hazardous process waste	Spent resin Spent membranes Filter precoat	2,250 tons per year
Municipal solid waste	Administration/office building waste	30 tons per year
Used oil	Mechanical equipment used oils	9 tons (2,500 gallons) per year
Wastewater sludge	Sludge generated from WWTP	10 tons per year
Hazardous waste	Maintenance and cleaning waste	<220 pounds per month
Total	Operations waste as described above	4,300 tons per year

WWTP = Waste Water Treatment Plant

The selected accredited commercial waste handling vendors would be subject to third-party risk management review, per SWA Lithium’s policies and procedures. SWA Lithium would use waste management suppliers and contractors that are appropriately permitted and pre-approved. Waste streams would be managed and properly disposed to minimize impacts on human health and the environment. Waste management practices would be conducted in compliance with local, state, and federal regulations, and minimized through recycling and waste minimization practices. Lithium-depleted brine would be analyzed and conditioned as needed to restore the pH of the lithium-depleted brine to a condition that is substantially like the original lithium-containing brine received from the production well. Brine injection wells would be permitted Class V Underground Injection Control wells by AOGC and brine reinjecting would require an ADEQ no-discharge permit (Appendix A). Based on planned waste management practices and regulatory requirements, regulated waste impacts from CPF construction and operation are expected to be minor.

Wellfield

The wellfield facilities (pipelines and wells/well pads) would not generate regulated waste during operations. Waste generated during construction of the wellfield (e.g., packaging and construction materials, minor amounts of oil/lubricants, drill cuttings and other drilling wastes)

would be disposed of at accredited waste disposal facilities as required. Waste generated during operations for maintenance activities would be collected and included in the CPF waste streams. Thus, regulated waste impacts related to wellfield facility construction and operation are expected to be negligible.

Agency Consultation (Central Processing Facility and Wellfield)

On 3 August 2025, DOE reached out to the ADEQ via e-mail to request general permitting guidelines and requirements that would be expected of SWA Lithium for the Proposed SWA Project (Appendix B). ADEQ responded to DOE with a letter outlining possible permitting and compliance requirements for SWA Lithium. SWA Lithium will adhere to all applicable permitting requirements outlined in the letter provided by ADEQ (Appendix B) and permit matrix (Appendix A).

3.10 UTILITIES AND ENERGY USE

3.10.1 AFFECTED ENVIRONMENT

Central Processing Facility and Wellfield

Power

Lafayette County is primarily served by the Southwest Arkansas Electric Cooperative, which covers most of the county's rural and residential areas. Southwest Arkansas Electric Cooperative's service territory includes the towns of Bradley, Lewisville, Stamps, and Buckner, as well as the surrounding unincorporated communities.³ The Cooperative maintains local offices in Bradley and operates a network of overhead distribution lines that follow rural roadways and utility easements. The transmission infrastructure in Lafayette County is characterized by aboveground powerlines, with minimal underground cabling due to the rural setting. The CPF site and wellfield are currently undeveloped with no utilities serving the sites. The Energy Transfer Pipeline runs to the north of the CPF site approximately 500 feet northeast of the site.

Water

Lafayette County is served by a network of small-scale municipal water systems and rural water associations, including the Lewisville Water Works Department, the Stamps Water Department, and Bradley Water and Sewer. Within the city limits of the towns in Lafayette County, water is primarily sourced from groundwater wells and distributed through localized infrastructure. In areas outside municipal boundaries, residents often rely on private wells for their water supply.

3.10.2 IMPACT ASSESSMENT

Central Processing Facility

The sole utility energy source for the CPF is anticipated to be natural gas, supplied by Energy Transfer. Energy Transfer is the natural gas transporter, who maintains a pipeline that runs approximately 500 feet north of the CPF site and has the capacity to supply the required natural

³ <https://swrea.com/service-area-map>

gas volume. Electricity would be self-generated via natural-gas-powered electrical generators with heat recovery and steam generation. This cogeneration system would also provide heating requirements for the CPF. The Proposed SWA Project is not expected to require electricity from the grid, and an interconnection to an electrical grid is not currently planned. The Proposed SWA Project desires to connect to grid power if and when the local transmission network can support the required demand and will continue to pursue and evaluate sources of grid supplied power. The CPF power generation is estimated to consume 3,000 million standard cubic feet of natural gas per year.

No utility-provided water use is anticipated, and no such tie-in is planned. As described in Section 3.6.2, the Proposed SWA Project site is not served by a municipal sewer system and the CPF would include a WWTP to treat sanitary wastewater generated by the Proposed SWA Project.

A diesel backup generator would be installed for emergencies only and would not run under normal operations.

The on-site power production is expected to consume approximately 3,000 million standard cubic feet of natural gas per year. The operation of the natural-gas-powered electrical generators would satisfy the 20 megawatts demand from the CPF and the approximately 17 megawatts demand from the wellfield. Additional steam loads would be required and generated either as a byproduct of power generation or via a dedicated steam boiler.

Water Usage

As described in Section 3.6.2, the total anticipated freshwater requirement for operation of the CPF, based on the FEED design, is estimated to be approximately 1,600 gpm during initial operation and increasing over the Proposed SWA Project life to approximately 1,700 gpm at peak brine production, which would be drawn from the Sparta aquifer via the freshwater wells. Process water is in a closed loop system and would be recycled back into the CPF process to ensure maximum capture of lithium.

SWA Lithium intends to rely upon the freshwater wells to also support the potable water needs for employee use at the CPF. To meet drinking water standards for employee consumption, the potable water supply would be treated with a reverse osmosis system and would be permitted through the Arkansas Department of Health as a non-transient, non-community water system.

Due to the Proposed SWA Project's intention to supply all process water and drinking water needs via private wells at the CPF site, the Proposed SWA Project would have no effect on public water utilities.

The CPF would include a WWTP for the treatment of sanitary wastewater generated on-site with discharge to surface water. The CPF would apply for a National Pollutant Discharge Elimination System (NPDES) permit for the wastewater treatment operations, which would include requirements for the CPF's discharge to meet CWA regulations.

SWA Lithium plans to apply for several wastewater discharge permits including:

- Individual NPDES permit—Domestic Wastewater (estimated discharge of 3 gpm);
- General NPDES permit—Cooling Tower Blowdown (estimated discharge of 50 gpm);

- General NPDES permit—Water Treatment Filter Backwash/Reverse Osmosis Retentate (estimated discharge of 640 gpm);
- General construction stormwater permit; and
- General industrial stormwater permit.

Additional details on these permits are included in Appendix A.

Overall, adherence to permits and the use of on-site power generation and private water consumption (as opposed to use of public utility-provided power and water) will likely result in negligible impacts to utilities and energy usage during CPF construction, and minor impacts during operation.

Wellfield

No public utilities would be required for construction or operation of the wellfield pipelines or well pads. Wellfield power would be supplied by the natural-gas-powered electrical generators at the CPF and impacts related to that power are included in the values provided for the CPF. Well pad freshwater wells at each well pad would supply small quantities of water as needed for well drilling and maintenance. The wellfield would not be staffed and would not require additional supporting infrastructure, such as potable water. Thus, impacts to energy and utility usage for wellfield construction and operation are expected to be negligible.

3.11 TRANSPORTATION AND TRAFFIC

3.11.1 AFFECTED ENVIRONMENT

Central Processing Facility and Wellfield

The CPF site lies 0.5 miles east of AR 29, a two-lane road with paved shoulders that the Arkansas Department of Transportation (ARDOT) classifies as a Minor Arterial. Primary access to the CPF site is currently provided by an unpaved, county road (CR 2918). Additionally, CR 16 located to the east and CR 18 located to the north are both narrow, paved, two-way undivided and unstriped roadways classified as Minor Collectors by ARDOT.

In 2024, traffic volumes on AR 29 ranged from an average of 1,000 vehicles per day south of Lewisville (of which approximately 27 percent were trucks) to 1,300 vehicles per day in Canfield (no truck data available) (ARDOT 2025).

3.11.2 IMPACT ASSESSMENT

Central Processing Facility

Construction is estimated to take 2.5 years and would have roughly 300 people on-site on average during that period. A Route Survey was completed for the current expected truck routes, considering cargo dimensions and potential obstacles including overhead power lines and communication cables. Overhead power lines, communication cables, traffic signals, and a bridge would need to be inspected, and utilities would be contacted prior to beginning transportation of materials for construction, but the survey indicated that the route can support the volume and type of truck traffic that the Proposed SWA Project would require. A new road from AR 29 to the CPF site would be constructed to improve safe site access and accommodate

traffic during construction and operations. Therefore, construction of the CPF is anticipated to have temporary minor impacts on the existing transportation infrastructure.

Approximately 57 round trips per day are expected at the CPF during normal operations. This includes raw material delivery, product shipping, miscellaneous deliveries, and employee commutes. Peak travel times are between 6 and 9am and 4 and 7pm during shift changes. In discussions with ARDOT, the surrounding highways are considered under-utilized, and no issues are expected to arise from the increase in traffic from the Proposed SWA Project construction and operation, and therefore, the Proposed SWA Project is not required to develop any additional mitigation measures for traffic. **Additionally, traffic management plans would be implemented by SWA Lithium's construction contractors to minimize traffic-related disruption. These plans would be implemented to establish a regular schedule for traffic (including workforce transportation, deliveries, transportation of materials, etc.). Traffic management plans would consider measures including, but not limited to, mandatory designated truck routes, scheduling of shift changes to avoid peak school times, park-and-ride lots, a bussing system, ride share incentives, avoiding queuing at site entrances, driver training, and vehicle safety and maintenance standards.** Based on SWA Lithium's discussions with ARDOT and the Route Survey for construction materials **and the traffic management plans discussed above, only** minor traffic or transportation impacts would be expected to occur as a result of CPF operations.

Wellfield

Traffic impacts from construction are included in the analysis for the CPF above. The wellfield would not be staffed and would only have occasional traffic from employees conducting inspections and maintenance and therefore would have negligible impact on traffic in the area.

3.12 PUBLIC AND OCCUPATIONAL HEALTH AND SAFETY

3.12.1 AFFECTED ENVIRONMENT

Central Processing Facility Wellfield

The CPF site and wellfield are currently undeveloped and do not have a permanent workforce. Emergency response services in Lafayette County include the Lewisville Volunteer Fire Department, while ambulance services are provided by Pafford Emergency Medical Services (Pafford Medical Services 2025). The county has agreements in place to receive emergency response services from neighboring Columbia and Miller counties when needed. The nearest hospital to the Proposed SWA Project is the regional medical center in Magnolia, roughly 20 miles east.

3.12.2 IMPACT ASSESSMENT

Central Processing Facility

The CPF would average approximately 300 workers on-site during construction over the construction period with an estimated 600 to 800 workers on-site during peak construction periods.

During normal operations, the CPF is expected to have approximately 30 employees per shift and operation 24 hours a day, 365 days per year. The CPF would use chemicals such as hydrochloric acid, sodium hydroxide, hydrogen peroxide, and soda ash, and energy that could affect human health if not properly handled. SWA Lithium would develop health and safety plans related to chemical safety, hazard communication, energy isolation, hot work, and confined space entry and would evaluate the need for additional safety plans prior to and during operations. The management systems would be written and implemented to minimize risk to workers and the environment. The CPF would include secondary containment where liquid chemicals would be unloaded as well as secondary containment in all storage tank areas, which would have the containment capacity to hold more than the contents of any one tank. Incompatible chemicals would be stored in separate locations. Appropriate personal protective equipment would be required in chemical storage and process operations areas but would be determined closer to the start of operations. The Proposed SWA Project would have a SPCC Plan that would cover chemical management, routes of possible spills, and spill prevention measures. Emergency services, if required, would come from Lafayette County, with support from neighboring counties in line with existing agreements between counties.

In the unlikely event of an unplanned release from the Proposed SWA Project, leaks or spills from brine handling systems and wastewater infrastructure could introduce contaminants into shallow groundwater zones. These impacts would likely be localized if they did occur but could persist over extended periods if not promptly addressed. SWA Lithium would develop and implement a SPCC Plan that would address any unplanned spills and avoid significant impacts on the environment. **In the event of an unplanned event or accidental release during construction or operation of the Proposed SWA Project that could impact members of the public or the environment, SWA Lithium and/or its contractors would follow communication protocols established in the project-specific Emergency Preparedness and Response Plans, which dictate the process and methods for communicating with the public and regulatory authorities, when warranted.**

Also, regular monitoring and inspection of the Proposed SWA Project's well infrastructure and pipelines would be undertaken pursuant to AOGC requirements.

The CPF's design incorporates USEPA and ADEQ health and safety driven regulatory requirements, along with industry best practice. The requirements of each of these governmental entities are specifically designed to protect human health and the environment. Standard best management practices and applicable federal, state, and local regulations would be implemented including compliance with federal Occupational Safety and Health Administration regulations and state rules under the Occupational Safety and Health Act. Health and Safety plans would be developed closer to the start of operations. The CPF would qualify as a public water source and therefore is required to obtain a permit from the Arkansas Department of Health. Further details regarding the environmental permits required for the project are included in Appendix A.

Wellfield

Well pads and pipelines have significant state regulatory requirements related to public health and safety. The Proposed SWA Project would follow all regulatory requirements, obtain all required permits (Appendix A), and implement a comprehensive Proposed SWA Project-specific Environmental and Social Management System, a key component of which is dedicated to health and safety. This would include a Proposed SWA Project-specific Emergency Preparedness and

Response Plan along with continuous monitoring system along the pipeline, routine maintenance, and robust recordkeeping. Employees would be given hazardous materials handling and spill prevention and response training specific to the pipelines and well pads. Emergency services, if required, would come from Lafayette County, with support from neighboring counties in line with existing agreements between counties.

As a prudent operator, the SWA Lithium operations team would monitor pressures along the pipeline remotely and conduct periodic patrolling of the ROW in line with state requirements. Any abnormal variation would be investigated and, if needed, field operators would be dispatched to visually inspect the ROW. Emergency shutdown valves would be placed at strategic locations along the pipeline route which would be activated to shut down pipeline sections if needed. The SWA Lithium team would initiate emergency response actions, as defined in SWA Lithium's Emergency Response Plan, if there is leak or rupture in any of the pipeline systems. The Proposed SWA Project would comply with all regulations pertaining to pipeline management.

Lithium production and reinjection wells are designed and constructed in accordance with state standards to mitigate the risk of accidental contamination of shallow groundwater resources. This includes the installation of steel well casing through shallow groundwater zones and monitoring systems. The brine produced is contained within pipelines and storage tanks (with secondary containment), limiting the volume of brine on the surface and minimizing the risk of accidental release and human exposure. The brine, once processed, is required by regulation to be reinjected under substantially similar chemical conditions as when it was produced. The lithium-depleted brine stream would be monitored for pH, turbidity and pressure prior to reinjection to ensure compliance with reinjection requirements. During the process of producing lithium carbonate, industry standard health and safety practices and procedures would be followed, which are commensurate with comparable water treatment and chemical processing facilities. Primary solid/liquid separation would occur at each well pad to minimize worker exposure to sour gas at the CPF site. Sour gas collected at the well head would be piped directly from each well pad to a third-party site for underground disposal.

Given this strong regulatory framework, continuous monitoring of the pipeline, and the remote location of the CPF site and the wellfield, the impact of the Proposed SWA Project on public and occupational health and safety is expected to be minor.

3.13 SOCIOECONOMICS

3.13.1 AFFECTED ENVIRONMENT

Central Processing Facility and Wellfield

The CPF site and wellfields are in Lafayette and Columbia County, Arkansas. The CPF site is located 7 miles south of the town of Lewisville, the nearest town. Lafayette County's population is approximately 6,211, making it the third least-populous county in Arkansas (U.S. Census Bureau 2019; Data Commons 2023). Lafayette County has a more diverse population than Arkansas, with higher Black and/or African American populations compared to other parts of the state. In the 1830s, Lewisville thrived as an oil town along the Smackover Formation, one of the largest oil fields in the United States, with an economy that has traditionally relied on oil, agriculture, timber, retail, and restaurants (CALs 2023). Today the largest employers in

Lafayette County are educational services, health care and social assistance, followed by production and transportation.

Columbia County had an estimated population of 22,527 in 2023, while Miller County had a population of 42,588. The racial composition in Columbia and Miller counties is like that of Lafayette County. Columbia and Miller counties, have more diverse economies compared to Lafayette County, largely driven by the economic and service hubs of Magnolia and Texarkana. The largest employers in both counties are educational services, health care and social assistance, followed by manufacturing (U.S. Census Bureau 2023c).

Additional demographic and economic data are included in Tables 3.13-1 and 3.13-2.

TABLE 3.13-1: RACE AND AGE IN ARKANSAS AND LAFAYETTE, COLUMBIA, AND MILLER COUNTIES

Location	Total Population	Percent Race / Ethnicity (%) ^a								Percent Under 5 Years (%)	Percent 65 Years and Older (%)
		White/ Non-Hispanic	Black/African American	Hispanic/Latino	American Indian/ Alaska Native	Hawaiian/ Pacific Islander	Some Other Race	Asian	Medium Age		
State of Arkansas	3,032,651	79.2	16.4	8.8	2.4	0.5	8.4	2.2	38.4	6.0	17.3
Lafayette County	6,211	57.7	35.8	0.8	0.2	0.0	0.1	1.1	48.5	3.6	25.4
Columbia County	22,527	61.2	34.9	3.4	0.3	0.0	0.6	0.4	34.5	6.2	17.3
Miller County	42,588	67.5	25.7	4.0	0.7	0.0	1.9	0.8	39.0	6.2	16.8

Source: U.S. Census Bureau 2023a, U.S. Census Bureau 2023d

% = percent

^a Includes race alone or in combination with one or more other races, as such totals may not equal 100 percent

TABLE 3.13-2: PRIMARY INDUSTRIES BY NUMBER OF CIVILIAN EMPLOYEES AGED 16 AND OVER

Location	Industry with the Most Employees	Industry with the Second Most Employees	Industry with the Third Most Employees
Arkansas	Educational services, health care, and social assistance	Retail trade	Manufacturing
Lafayette County	Educational services, health care, and social assistance	Agriculture, forestry, fishing and hunting, and mining	Retail trade
Columbia County	Educational services, health care, and social assistance	Manufacturing	Retail trade
Miller County	Educational services, health care, and social assistance	Manufacturing	Retail trade

Source: U.S. Census Bureau 2023c

Lafayette, Columbia, and Miller counties have a lower median income than Arkansas (U.S. Census Bureau 2023c). The percent of adults aged 25 and over with at least a high school diploma in Lafayette County is lower than, but close to, the state average and that of Columbia County; however, only 9.2 percent of Lafayette County residents over 25 have a bachelor’s degree or higher, which is significantly lower than the state average of 25.1 percent, the Columbia County rate of 20.4 percent, and the Miller County rate of 16.7 percent (U.S. Census Bureau 2023e). Low-income and poverty rates are higher in the three counties than in Arkansas. Unemployment in Lafayette County is slightly higher at 5.8 percent versus the state average of 3.8 percent (Federal Reserve Bank of St Louis 2025).

TABLE 3.13-3: ECONOMIC INDICATORS FOR ARKANSAS AND LAFAYETTE, COLUMBIA, AND MILLER COUNTIES

Location	Median Household Income	Families Below Poverty Level (%)	Unemployment Rate (%) ^a	Low-Income Percent (%) ^b	Percent 25+ with at Least a High School Diploma (%)	Percent 25+ with at Least a Bachelor’s Degree (%)
State of Arkansas	\$58,773	11.5	3.8	37.9	88.6	25.1
Lafayette County	\$37,237	18.6	5.8	49.0	81.6	9.2
Columbia County	\$47,363	19.1	5.3	43.8	88.5	20.4
Miller County	\$49,983	15.8	5.0	44.0	86.9	16.7

Source: U.S. Census Bureau 2023b, 2023c, 2023e; Feral Reserve Bank of St Louis

^a Unemployment rate as of August 2025

^b Calculated as population making less than two times the federal poverty level

Community Sentiment

Desktop research found topics of community concern in the surrounding area relate to the environment, community engagement, and the economy (Parr 2025; Myers 2024). One key area of concern is the potential for a lithium boom in Arkansas, as residents fear a repeat of the past mistakes concerning oil production (Myers 2024). The increase in companies exploring lithium brine extraction in the area has raised concerns among some residents about the potential environmental impacts on the region as stakeholders recall a history of local water contamination from past petroleum extraction activities (Fast Company 2024a). Stakeholder concerns are linked to past events and perceptions of future lithium extraction from brine. Although brine extraction for bromine production is ongoing in Columbia County, the Proposed SWA Project would be the first lithium production facility in southwest Arkansas. Local stakeholders are not familiar with lithium brine extraction and production projects, and how they would interact with the surrounding environment. SWA Lithium and its contractors would develop and implement a variety of management plans and procedures to protect the environment. Regular monitoring and inspection of the Proposed SWA Project’s well infrastructure and pipelines would be undertaken pursuant to AOGC requirements. SWA Lithium intends to continue to engage stakeholders in Lafayette County and the surrounding region to share information about the Proposed SWA Project, the outcomes of environmental and social assessments, and management

plans and procedures that are in place to manage and minimize potential impacts of the Proposed SWA Project on environmental and socioeconomic resources.

Many residents in Lafayette County expressed optimism that the lithium industry would bring new business opportunities to the area and stimulate the local economy (Fast Company 2024b).

Public Transportation

Public transportation in Lafayette County is limited to the South Central Arkansas Transit, which is run by the Central Arkansas Development Council. South Central Arkansas Transit, along with Greyhound, provides public transportation services to Lafayette County, including curb-to-curb transportation for personal needs and non-emergency medical transportation. There is no fixed route service in Lafayette County (CADC 2025).

Infrastructure

Housing availability in Lafayette County is limited and while over 1,000 houses were vacant in 2023, only 50 of those were available for rent, and no houses were for sale. Columbia County had over 150 houses for rent in 2023, and 174 homes for sale in 2023 (U.S. Census Bureau 2023c), while Miller County had 646 homes for rent and 177 homes for sale. There are no major hotels in Lafayette County, however, short-term accommodation is available in Columbia and Miller counties, with approximately 9 hotels in Magnolia and around 37 hotels in and around Texarkana.

Lafayette County is developing a strategic plan to address housing, infrastructure, retail, and zoning needs required by the recent growth in the lithium sector. This plan would be a combined effort with industries, educational institutions, federal agencies, and state agencies participating as partners. Findings from this plan would address resource development and other sectors to strengthen supply chain resources in the area (EDA 2025).

Social Resources

Lafayette County has a community health center in Lewisville (CHCA 2023). The nearest hospitals are regional medical centers in neighboring counties in the cities of Magnolia and Hope, roughly 20 miles east and 27 miles north, respectively (CHCA 2023; USEPA 2025). Magnolia Regional Medical Center in Columbia County, approximately 22.5 miles from Lewisville and has an emergency department, inpatient and outpatient services, surgical services, home healthcare, and physical therapy. Texarkana is home to multiple clinics and medical centers, including University of Arkansas Medical Sciences Health Family Medical Center, the Miller County Health Clinic, and CHRISTUS Health.

Lafayette County Office of Emergency Management Services provides updates on emergencies and weather-related events through a Facebook page. The county maintains a Local Emergency Management Coordinator through the Arkansas Department of Public Safety (ADPS 2020). Volunteers fully or partially staff many of the emergency response teams in Arkansas (ADPS 2025). Columbia County has 10 fire departments, and Miller County has eight, five of which are based in Texarkana.

Lafayette County School district has two schools: Lafayette County Elementary School and Lafayette County High School. The school system serviced 489 students in the 2023 to 2024 school year. Of the 489 students, 250 students were enrolled in the Lafayette County Elementary

School, and 239 students were enrolled in the Lafayette County High School. Graduation rate for 4 years of secondary education is 91.43 percent and 97.73 percent for 5 years of secondary education. These numbers exceed the state average of 89.4 percent and 90.93 percent, respectively (LCSD 2024). Bradley, although located in Lafayette County, is served by the Emerson-Taylor-Bradley School district. There are two schools in the town, Bradley Elementary School and Bradley High School. Magnolia School district is the sole school district within Magnolia County, with a total of five schools.

Broadband Access

In Lafayette County, 67 percent of households have a broadband connection subscription, and 85.8 percent of households have a computer. These percentages are lower than the U.S. average of 94.8 percent and 89.7 percent, respectively. Limited access to broadband in rural areas is problematic because commerce, health, education, and social structures are increasingly reliant on broadband to disseminate information and services. In the Lafayette County area, there are several broadband subscription services available to residents (Optimum, CenturyLink, T-Mobile, Cox Communications, Xfinity, and NATCO), with prices starting at \$35 per month (U.S. Census Bureau 2024).

3.13.2 IMPACT ASSESSMENT

Central Processing Facility and Wellfield

The CPF site is estimated to create 300 construction jobs and 100 permanent, direct jobs. Based on an Economic Impact Report prepared for the Proposed SWA Project using IMPLAN input/output model,⁴ construction of the CPF site would generate an estimated \$10.2 million in local tax revenues and an estimated overall \$257.7 million in tax revenue including sub county, county, state, and federal taxes. Construction of the CPF site is anticipated to support additional indirect jobs in Lafayette County that are not directly related to the Proposed SWA Project but arise because of socioeconomic changes owing to the Proposed SWA Project. During operations, the CPF site would generate roughly \$10.5 million in local taxes during the 20-year operations and contribute \$551.4 million to Lafayette County's gross domestic product over this period (Walton 2025). SWA Lithium is committed to working with local colleges and universities to provide educational and workforce training. Overall, the Proposed SWA Project would have a minor beneficial impact on socioeconomics, providing jobs and tax revenue to the local area and wider state.

During the construction of large capital projects, impacts on community services are often associated with a sharp and sudden change in population, such as the presence of a large external workforce or an in-migration of permanent workers. The Proposed SWA Project requires a modest workforce during the construction phase. The Proposed SWA Project aims to maximize local hiring of the construction workforce from Lafayette, Columbia, and Miller counties in Arkansas and the northern parishes of Louisiana (within approximately 70 miles of the site). As the Proposed SWA Project is within a reasonable commuting distance for the larger towns in these counties, workers would remain at their residence and would not require accommodation.

⁴ IMPLAN (short for IMpact Analysis for PLANning) is an economic modeling software that helps researchers and policymakers understand the economic effects of specific activities, investments, or policy changes within a defined geographic area.

The balance of the construction workforce may be hired from outside the region – an average of approximately 300 workers over the duration of the construction period and up to 600 to 800 workers during peak construction phases.

Given the accommodation constraints in Lafayette County, any non-local construction workers would be housed in neighboring counties, and the Proposed SWA Project is not expected to affect the local housing or short-term accommodation resources in Lafayette County. Short-term accommodations are available in Columbia and Miller counties, with close to 50 hotels and six recreational vehicle parks available between the two counties. Most of the hotels are concentrated in Texarkana.

The Proposed SWA Project is not expected to place pressure or impede access to education and healthcare services in Lafayette County. Construction workers from outside the county would relocate temporarily and be accommodated in neighboring counties. Temporary construction workers are unlikely to be accompanied by family members and therefore would not access education services. For general health care services, temporary workers could seek medical attention in Magnolia or Texarkana for treatment of common ailments; however, as the construction contracts would be temporary, it is anticipated that most workers would seek specialty healthcare services when they return to their hometowns.

3.14 CULTURAL RESOURCES

3.14.1 AFFECTED ENVIRONMENT

The Affected Environment for cultural resources includes any areas of ground-disturbing activities and areas where aboveground structures from the Proposed SWA Project would be visible.

Cultural resources include archaeological sites, buildings, structures, objects, districts, landscapes, and traditional cultural properties (TCP) defined through federal laws and executive orders (EOs), including the NEPA and the National Historic Preservation Act (NHPA). Archaeological resources include physical remains of past human activity (e.g., battlefields, camp sites) and are generally divided between pre-Contact and post-Contact eras. Historic structures include standing buildings, bridges, roads, and other structures of historic or aesthetic significance. TCPs are places, practices, landscapes, or locations associated with the cultural practices, traditions, beliefs, lifeways, and arts of a living community and may be tangible or intangible in nature. Typically discussed in conjunction with Indigenous peoples, TCPs can be associated with any living community with traditional ties to the property.

These various types of resources may be historic properties as defined in Title 36 of the Code of Federal Regulations, Part 800 (36 CFR Part 800), which are eligible for or listed on the National Register of Historic Places (NRHP), resources listed on state or local registers, or resources identified as important to a particular group during consultation. Whether a resource is listed on or eligible for listing on the NRHP determines whether the resource is considered culturally significant for the purposes of this analysis.

The geographic area of analysis for cultural resources is equivalent to the Proposed SWA Project's area of potential effects (APE), as defined in NHPA Section 106 at 36 CFR § 800.16(d) as “the geographic area or areas within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties, if any such properties exist.”

Central Processing Facility

Archaeological Resources and Historic Preservation Properties

A cultural resources survey of the CPF footprint and directly related infrastructure including two possible access road routes within the CPF site was conducted in April and June 2025 (Trinity 2025a). The total area surveyed for direct impacts was 137 acres, the direct APE for the purposes of that survey. The indirect APE considered by Trinity included a 1.2-mile buffer surrounding the CPF site. Desktop records review identified no previously recorded archaeological sites, cultural resources surveys, NRHP-listed or -eligible sites, or Arkansas Historic Preservation Properties within the direct or indirect APE. Field investigations including intensive pedestrian archaeological survey and subsurface shovel testing were conducted in April and June 2025. No cultural resources were identified during the survey.

Native American Interests

Desktop research through the Bureau of Indian Affairs, U.S. Domestic Sovereign Nations: Land Areas of Federally Recognized Tribes Map, and the Protected Areas Database of the United States did not indicate that any adjoining lands are owned by or held in trust for any federally recognized American Indian Tribes or located within the exterior boundaries of a reservation. Eight federally recognized tribes were identified as potentially having an interest in consulting on projects within southwestern Arkansas, including the Apache Tribe of Oklahoma, the Caddo Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Delaware Nation—Oklahoma, the Osage Nation, the Quapaw Nation, the Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. There are no state recognized tribes in Arkansas.

Wellfield

Archaeological Resources and Historic Preservation Properties

A cultural resources survey of the wellfield footprint was conducted between April and August 2025 (Trinity 2025e). The area surveyed covered 308 acres including the 13.98-mile pipeline and five 10-acre well pads, the direct APE for the purposes of that survey. The indirect APE Trinity considered was a 1.2-mile buffer surrounding the wellfield footprint. Desktop review identified no previously recorded archaeological sites, NRHP-listed or -eligible sites, or Arkansas Historic Preservation Properties within the direct or indirect APE. One previous cultural resources survey intersects the direct APE. Field investigations including intensive pedestrian archaeological survey and subsurface shovel testing were conducted in June 2025. During this survey, 10 archaeological sites, including 6 isolated occurrences, were identified within the direct APE along with 12 historic buildings within the indirect APE. None of these resources were found eligible for inclusion on the NRHP.

Native American Interests

Native American interests for the wellfield are the same as that described for the CPF site.

3.14.2 IMPACT ASSESSMENT

Agency Consultation (Central Processing Facility and Wellfield)

DOE initiated communication (via e-mail) with the DAH on 27 May 2025 by providing an advance notice of the Proposed SWA Project and DOE's Proposed Action, the NEPA process, and future consultation under Section 106 of the NHPA. DOE also provided similar advance notice via e-mail throughout May and June of 2025 to Tribal Historic Preservation Officers (THPO) and Tribal leaders of six federally recognized tribes. Tribes initially contacted were the Apache Tribe of Oklahoma, the Caddo Nation of Oklahoma, the Coshatta Tribe of Louisiana, the Delaware Nation – Oklahoma, the Osage Nation, and the Quapaw Nation. Full copies of CPF and wellfield cultural resource studies, along with maps of the proposed area of potential effect, were submitted to the DAH and the six Tribal Nations in August and September of 2025, with invitations for consultation and comments on the cultural resource studies and the Proposed SWA Project as a whole (Appendix B).

On 4 September 2025, the Quapaw Nation sent an e-mail to DOE noting that the construction and operation of the CPF will have no effect on any known Quapaw sites (Appendix B). A second e-mail was received from the Quapaw Nation on 8 October 2025 noting that the overall project (including the wellfield portion) is not likely to affect properties of cultural or sacred significance to the Quapaw Nation, but if artifacts or human remains are discovered during project construction, work should cease immediately and the Quapaw Nation Historic Preservation Program be contacted (Appendix B). DOE and SWA Lithium will adhere to this stipulation.

On 11 September 2025, DOE received a Determination of Effect letter from the DAH stating that there would be no historic properties affected as a result of the proposed construction and operation of the CPF (Appendix B). A second Determination of Effect letter was received on 12 November 2025 stating that there would be no historic properties affected as a result of the construction and operation of the wellfield portion of the Proposed SWA Project. However, DAH recommended that DOE consult with two additional tribes (the Shawnee Tribe and the United Keetoowah Band of Cherokee Indians) regarding the Proposed SWA Project. Copies of the CPF and wellfield cultural resource studies were subsequently mailed to THPOs and Tribal leaders of these two tribes on 24 November 2025 for review and comment.

Given the lack of identified cultural resources within the indirect and direct APEs and the low likelihood of encountering TCPs or unrecorded cultural resources within the indirect and direct APEs, as evidenced by the results of consultation with DAH and comments received from federally recognized American Indian Tribes to date, in combination with the commitments and controls that are in place should an unanticipated discovery of cultural resources occur, DOE's Proposed Action and the Proposed SWA Project would not have any direct or indirect impacts on cultural resources. Copies of the Draft EA were submitted to the DAH and THPOs and Tribal leaders of the eight Tribal Nations noted above for review and comment. **The Shawnee Tribe Tribal Historic Preservation Office responded and confirmed that the project is out of the Shawnee Tribe's area of interest (Appendix B), and the Osage Nation Historic Preservation Office responded with a request to review the two cultural resource survey reports completed by Switchgrass Archaeology in 2025 with an intent to comment (Appendix B). The Osage Nation Tribal Historic Preservation Office subsequently commented that the Proposed SWA Project "most likely will not adversely affect any sacred properties and/or**

properties of cultural significance to the Osage Nation” and provided a “No Properties” determination, with a stipulation that work cease immediately and the Osage Nation Historic Preservation Office be contacted if artifacts or human remains are discovered during project construction (Appendix B). DOE and SWA Lithium will adhere to this stipulation. No further comments were received by the DAH or other THPOs or Tribal leaders on the Draft EA.

4. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The table below summarizes the environmental and socioeconomic impacts for DOE’s Proposed Action and the Proposed SWA Project described in Chapter 3. For the No Action Alternative (where DOE would elect to not provide financial assistance to the Proposed SWA Project), the SWA Lithium team would likely still pursue the Proposed SWA Project, and the potential impacts would be similar to DOE’s Action Alternative (where DOE would provide financial assistance for the Proposed SWA Project). However, for the purposes of establishing an environmental baseline of current conditions and comparing that baseline to potential impacts if the Proposed SWA Project were to proceed, the analysis of impacts assumes that the Proposed SWA Project would not proceed under the No Action Alternative, and all resource areas would remain unchanged from current conditions.

TABLE 4-1: SUMMARY OF ENVIRONMENTAL AND SOCIOECONOMIC IMPACTS

Resource Area	Central Processing Facility		Wellfield	
	Construction	Operations	Construction	Operations
Aesthetics and Visual Resources	Negligible	Negligible	Negligible	Negligible
Land Use	Minor	Minor	Minor	Minor
Air Quality and Emissions	Minor	Minor	Minor	Negligible
Noise	Negligible	Negligible	Negligible	Negligible
Geology and Soils	Minor	Negligible	Minor	Negligible
Groundwater	Negligible	Minor	Negligible	Negligible
Surface Water	Minor	Minor	Minor	None
Wetlands and Floodplains	Negligible	Negligible	Minor	Negligible
Vegetation and Wildlife	See Chapter 3.8	See Chapter 3.8	See Chapter 3.8	See Chapter 3.8
Regulated Waste	Minor	Minor	Minor	Negligible
Utilities and Energy Use	Negligible	Minor	Negligible	Negligible
Transportation and Traffic	Minor	Minor	Minor	Negligible
Public and Occupational Health and Safety	Minor	Minor	Minor	Minor
Socioeconomics	Minor Beneficial	Minor Beneficial	Minor Beneficial	Minor Beneficial
Cultural Resources	None	None	None	None

5. LIST OF AGENCIES CONTACTED

DOE coordinated with the following agencies, Tribal Nations, and stakeholders throughout development of the **Draft and Final EA**. Entities were communicated with through consultation letters, meetings, e-mails, and/or notification of the availability of the Draft EA for review and comment.

State and Local Offices

Office of the Governor – Sarah Huckabee Sanders
500 Woodlane Street
Little Rock, AR 72201
501-682-2345

Mayor Ethan N. Dunbar
Mayor – Lewisville, AR
330 W. 1st Street
Lewisville, AR 71845
870-921-4971

Lafayette County Library
219 E. 3rd Street
Lewisville, AR 71845-0459
870-921-4757

Arkansas Department of Parks, Heritage and Tourism
Arkansas Historic Preservation Program – Division of Arkansas Heritage
1100 North Street
Little Rock, AR 72201
501-324-9150

Arkansas Department of Agriculture – Division of Natural Resources
1 Natural Resources Drive
Little Rock, AR 72205
501-225-1598

Arkansas Department of Energy and Environment - Division of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
888-233-0326

Tim Scott
Senior Operations Manager
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-2433

Arkansas Oil and Gas Commission
5301 Northshore Drive
North Little Rock, AR 72118
501-683-5814

Arkansas Game and Fish Commission
2 Natural Resources Drive
Little Rock, AR 72205
833-345-0325

Arkansas Natural Heritage Commission
1100 North Street
Little Rock, AR 72201
501-324-9619

Federal Offices

U.S. Department of Agriculture
Natural Resources Conservation Service
700 West Capitol Avenue, Suite 5317
Little Rock, AR 72201
501-301-3140

U.S. Fish and Wildlife Service

Arkansas Ecological Services Field Office
110 South Amity Road, Suite 300
Conway, AR 72032
501-513-4470

U.S. Army Corps of Engineers
Vicksburg District

4155 East Clay Street
Vicksburg, MS 39183
601-631-5000

Robert Houston
Staff Director
Office of Communities, Tribes and
Environmental Assessment
U.S. Environmental Protection Agency –
Region 6

1201 Elm Street, Suite 500
Dallas, TX 75270
214-665-8565

Daniel Bagby
U.S. Environmental Protection Agency –
Region 6
1201 Elm Street, Suite 500
Dallas, TX 75202
214-665-2727

Tribal Nations

Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005
405-247-9493

Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009
405-656-2344

United Keetoowah Band of Cherokee Indians
in Oklahoma
P.O. Box 746
Tahlequah, OK 74456
918-871-2800

Coushatta Tribe of Louisiana
P.O. Box 10
Elton, LA 70532
337-584-1401

Delaware Nation – Oklahoma
P.O. Box 825
Anadarko, OK 73005
405-247-2448

Osage Nation
100 W. Main Street
Pawhuska, OK 74056
918-287-5555

Quapaw Nation
5681 South 630 Road
Quapaw, OK 74363
918-542-1853

Shawnee Tribe
29 South Highway 69a
Miami, OK 74354
918-542-2441

APPENDIX A PERMIT MATRIX

Permit Description	Agency	Governing Law	Expected Agency Approval Time	Project Phase	Regulated Activity	Project Component	Status (as of April 2026)
Minor Source Air Permit	ADEQ	Clean Air Act	3 to 6 months	Construction and operations	Air emissions (construction and operations)	CPF	Permit application submitted. Deemed administratively complete 2-Dec-25
General Stormwater Permit	ADEQ	Clean Water Act	30 days	Construction	Construction stormwater discharge	CPF	Permit application preparation underway.
General Stormwater Permit	ADEQ	Clean Water Act	30 days	Construction	Construction stormwater discharge	Wellfield	Permit application preparation underway.
General Industrial Stormwater Permit	ADEQ	Clean Water Act	30 days	Operations	Stormwater discharge from a categorical industry	CPF	Permit application preparation underway.
General Industrial Stormwater Permit	ADEQ	Clean Water Act	30 days	Operations	Stormwater discharge from a categorical industry	Wellfield	Permit application preparation underway.
Short Term Activity Authorization	ADEQ	Clean Water Act	2 to 6 weeks	Construction	Construction activities that disturb stream, lakes, or other Waters of the State	All	Will be completed concurrent with construction stormwater permitting.
Hydrostatic Testing General Permit	ADEQ	Clean Water Act	3 months	Construction	Hydrostatic testing of pipelines	Wellfield	To be developed in accordance with construction timeline.
NPDES General Discharge Permit—Surface Water & associated Form 1	ADEQ/USEPA	State permit	10 months	Construction & Operations	Surface discharge of non-contact process water, surface discharge of treated wastewater	CPF	Permit application preparation underway.
NPDES Individual Discharge Permit—Surface Water & associated Form 1	ADEQ/USEPA	State permit	6 to 11 months	Construction & Operations	Surface discharge of treated water from sanitary WWTP	CPF	Permit application preparation underway.

Permit Description	Agency	Governing Law	Expected Agency Approval Time	Project Phase	Regulated Activity	Project Component	Status (as of April 2026)
Permits to Drill Brine Wells	AOGC	State permit	1 to 2 weeks	Construction (drill)	Drill brine wells	Per well	To be developed in accordance with construction timeline.
UIC Class V Disposal Well Permits	AOGC	USEPA Region 6 (managed at state level)	2 months	Construction (drill)	Permit to inject brine	Per well	To be developed in accordance with construction timeline.
ADEQ No-Discharge Permit	ADEQ	State permit	4 to 7 months	Construction	Construct and operate the surface facility for Class 5 wells	Brine injection tank at CPF	Permit application preparation underway.
Section 404 Permit	USACE	Clean Water Act	4 months	Construction	Impact Waters of the U.S.	Wellfield & CPF	PJD/AJD completed by USACE in September 2025, permit application preparation underway
Public Water System (Design & Construction)	ADH	Safe Drinking Water Act	1 month	Construction	Provide safe drinking water to facility	CPF	To be developed in accordance with construction timeline.

ADEQ = Arkansas Department of Environmental Quality; ADH = Arkansas Department of Health; AOGC = Arkansas Oil and Gas Commission; CPF = Central Processing Facility; NPDES = National Pollutant Discharge Elimination System; UIC = Underground Injection Control; U.S. = United States; USACE = U.S. Army Corps of Engineers; USEPA = U.S. Environmental Protection Agency; WWTP = Waste Water Treatment Plant

APPENDIX B AGENCY CONSULTATION DOCUMENTATION AND RESPONSES

NATURAL RESOURCES CONSERVATION SERVICE

October 23, 2025

Kaitlyn Maloch
Lewisville Service Center
Natural Resources Conservation Service
1 Agri-Plex Drive, Suite 1
Lewisville, AR 71845-0308

Subject: Department of Energy (Funding Agency) – Land Evaluation and Site Assessment for the SWA Lithium – Southwest Arkansas Lithium Project

Dear Ms. Maloch,

My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL). The reason I am contacting you is because I, along with Casey Strickland (copied) have been assigned as NEPA Compliance Officers for a NEPA Environmental Assessment (EA) for a proposed award to SWA Lithium. SWA Lithium is proposing to design, construct and operate the Southwest Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells, pipelines, and electrical lines within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility, and then reinject the barren tail brine back into the Smackover Formation. 153.5 acres of land will be directly converted, and 271.5 acres of land will be indirectly converted as a result of this proposed project.

I am reaching out in order to obtain input from your office for the Farmland Conversion Impact Rating being completed as part of the EA for this proposed project. A copy of Form AD-1006 with Parts I and III completed is attached, along with a variety of maps of the area of potential effect.

If you have any questions or comments concerning this proposed project or the Farmland Conversion Impact Rating, please contact me at the following address, phone, or email included below my signature. Input from your office into this form can be returned to be via email.

Thank you for your attention to this request.

Sincerely,



Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Attachments:

1. NRCS_SWA Lithium Project_Form AD1006.pdf
2. SWA Lithium_General Project Location Map.pdf
3. SWA Lithium_Project Components Map.pdf
4. SWA Lithium_Detailed Components Map.pdf
5. SWA Lithium_Central Processing Facility Detailed Map.pdf
6. SWA Lithium_Wellfield Detailed Map.pdf

cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 1/8/26	4. Sheet 1 of 1
1. Name of Project Southwest Arkansas Lithium		5. Federal Agency Involved Department of Energy	
2. Type of Project Processing facility and well field		6. County and State Lafayette County, Arkansas	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS 1/8/26	2. Person Completing Form Greta Grishanova
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated 21,556	Average Farm Size 627
5. Major Crop(s) Soybeans	6. Farmable Land in Government Jurisdiction Acres: 120,374 % 35	7. Amount of Farmland As Defined in FPPA Acres: NONE % 0	
8. Name Of Land Evaluation System Used NCCPI	9. Name of Local Site Assessment System NONE	10. Date Land Evaluation Returned by NRCS 1/8/26	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	136			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	310			
C. Total Acres In Corridor	446			

PART IV (To be completed by NRCS) Land Evaluation Information	
A. Total Acres Prime And Unique Farmland	302
B. Total Acres Statewide And Local Important Farmland	50
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.37
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	43

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)	72
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PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	20			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	5			
6. Creation Of Nonfarmable Farmland	25	25			
7. Availability Of Farm Support Services	5	2			
8. On-Farm Investments	20	0			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	77	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	72	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	77	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	149	0	0	0

1. Corridor Selected: Corridor A	2. Total Acres of Farmlands to be Converted by Project: 446	3. Date Of Selection: 1/15/26	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
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5. Reason For Selection:
Corridor A falls below the 160 point corridor assessment threshold. The proposed conversion is consistent with the FPPA.

Signature of Person Completing this Part: Stephen Witmer	DATE 1/15/26
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NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

- More than 90 percent - 15 points
- 90 to 20 percent - 14 to 1 point(s)
- Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

- More than 90 percent - 10 points
- 90 to 20 percent - 9 to 1 point(s)
- Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

- More than 90 percent - 20 points
- 90 to 20 percent - 19 to 1 point(s)
- Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

- Site is protected - 20 points
- Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ?

- (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with \$1,000 or more in sales.)
- As large or larger - 10 points
 - Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

- Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
- Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
- Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

- All required services are available - 5 points
- Some required services are available - 4 to 1 point(s)
- No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

- High amount of on-farm investment - 20 points
- Moderate amount of on-farm investment - 19 to 1 point(s)
- No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

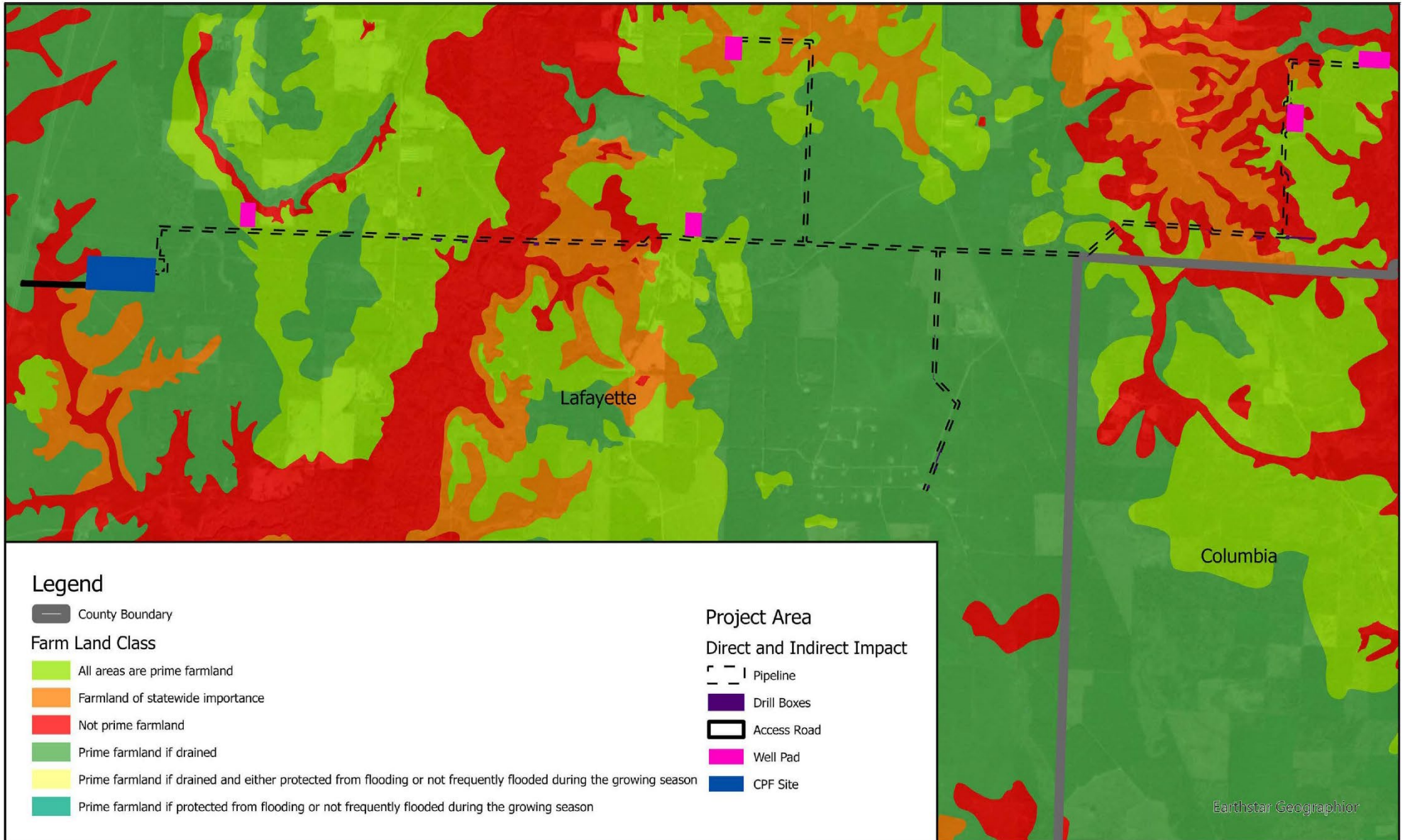
- Substantial reduction in demand for support services if the site is converted - 25 points
- Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
- No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

- Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
 - Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
 - Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points
-



Farmland Classification of Soils Southwest Arkansas Lithium Project Lafayette County, Arkansas



U.S. ARMY CORPS OF ENGINEERS



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, VICKSBURG DISTRICT
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

September 26, 2025

SUBJECT: Request for a Jurisdictional Determination on an Approximately 441-Acre Site in Lafayette County, Arkansas: MVK-2025-411

Mr. J. A. Robinson
SWA Lithium, LLC
1625 - 1075 West Georgia Street
Vancouver, Canada

Dear Mr. Robinson:

I refer to your letter proposing the development of a lithium processing facility on the 411-acre site located in Section 20 T17S-R24W Lafayette County, Arkansas.

Based upon the information provided, it appears that there are jurisdictional waters of the United States located within the project boundary subject to regulation pursuant to Section 404 of the Clean Water Act. The approximate extent of jurisdictional waters of the United States within the proposed project area is depicted on the enclosed map (enclosure 1). Any work involving the discharge of dredged or fill material (land clearing, ditching, filling, leveeing, culvert crossings, etc.) within the identified jurisdictional waters will require a Department of the Army Section 404 permit prior to beginning work. For your information, I have enclosed an appeals form for this preliminary jurisdictional determination (enclosure 2).

In addition, it has been determined that the isolated wetlands and non-relatively permanent waters depicted on the enclosed map (enclosure 1) are not considered Waters of the United States and therefore, a Department of the Army section 404 permit will not be required for impacting these features. I have enclosed the basis of our determination (enclosure 3) and appeals form (enclosure 4) for these features.

This approved jurisdictional determination is valid for a period not to exceed five years from the date of this letter unless superseded by law or regulation. If the proposed work is not completed by this time, please contact this office for a reevaluation of permit requirements.

This determination of Department of the Army regulatory requirements does not convey any property rights, either in real estate or material or any exclusive privileges and does not authorize any injury to property or invasion of rights or local laws or regulations or obviate the requirement to obtain state or local assent required by law for the activity discussed herein.

The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for decision, and the final decision.

If we may be of any further assistance in this matter, please contact Mr. Durham Norman of this office, telephone (601) 631-7478 or e-mail address: Durham.A.Norman@usace.army.mil. If you need to call or email us about this project, please refer to project identification number MVK-2025-00411.

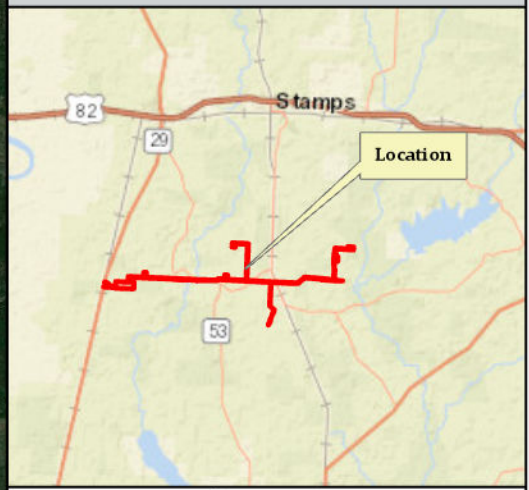
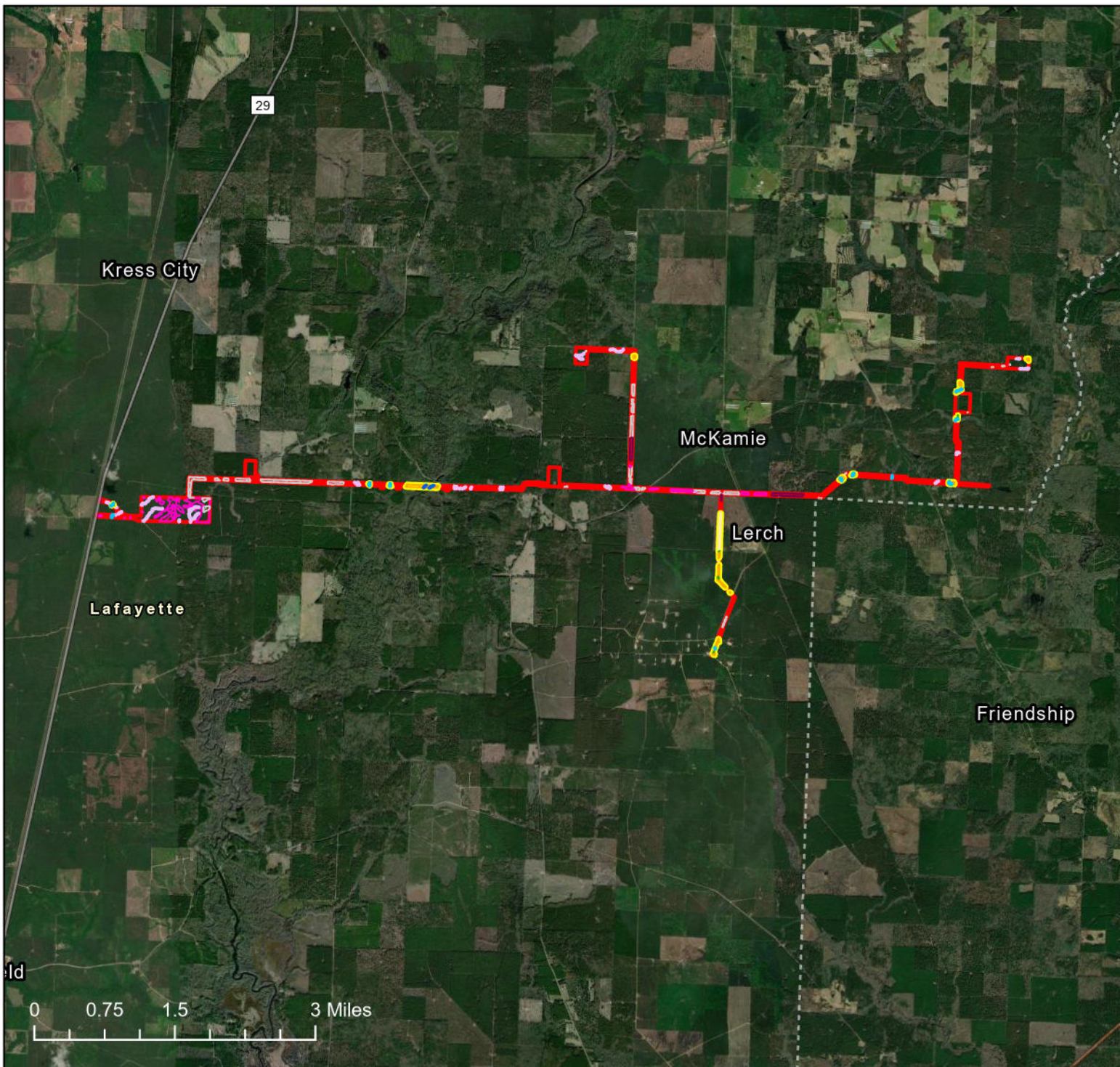
I am also forwarding a copy of this letter to your agent, Mr. David Williams, with Switchgrass Consulting.

Sincerely,

Andy Sanderson Digitally signed by
Andy Sanderson
Date: 2025.09.25
08:34:54 -05'00'

Andy Sanderson
Chief, Arkansas Branch
Regulatory Division

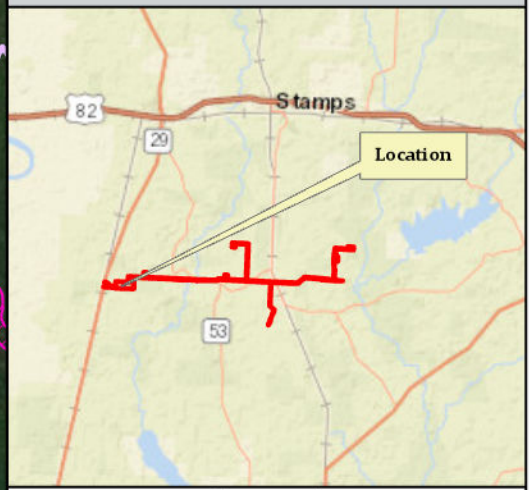
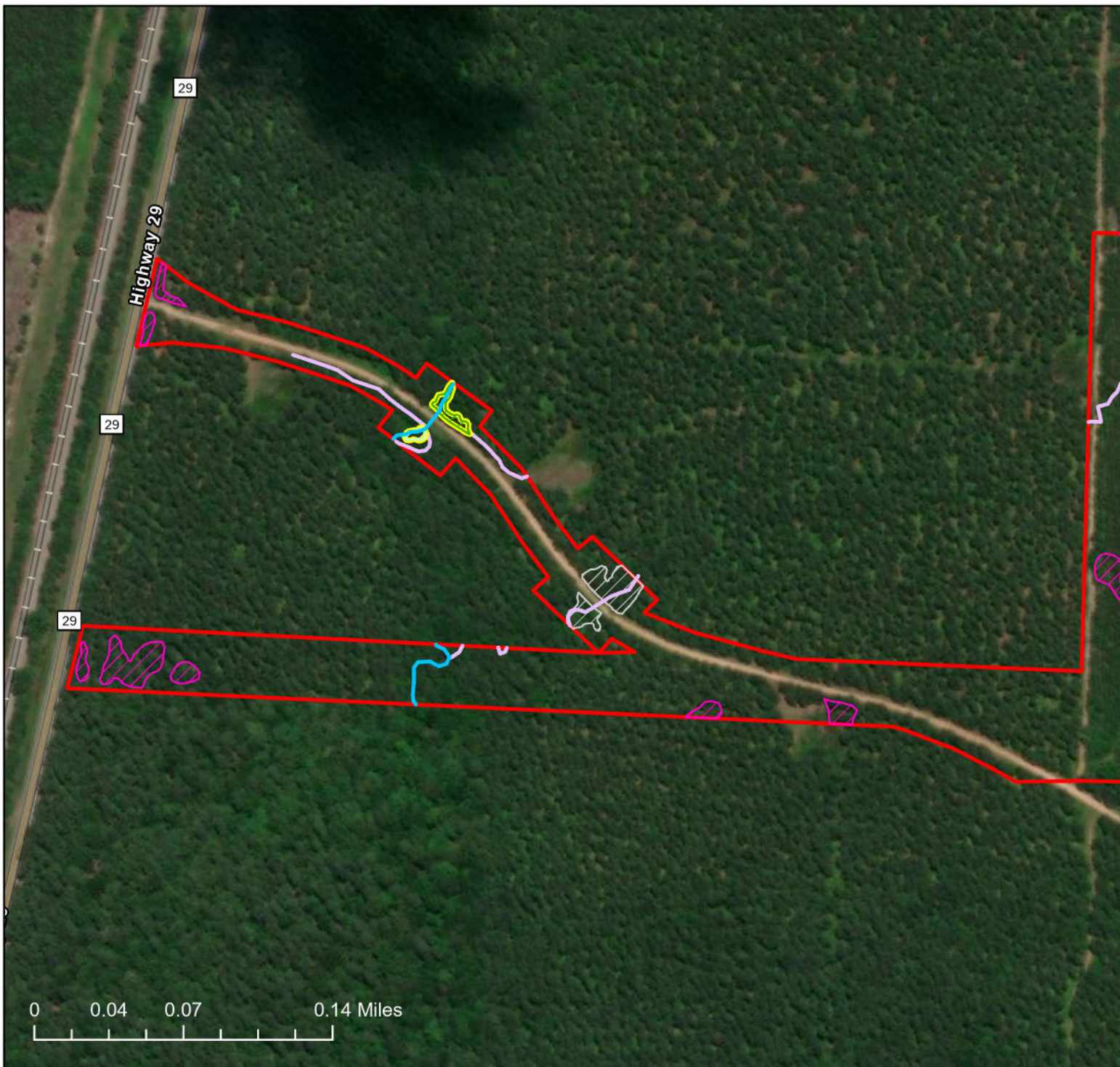
Enclosures



Legend

AJD Boundary	PJD Boundary	PSS Wetland (Jurisdictional)	Non-RPW (Non-Jurisdictional)
Intermittent RPW (Jurisdictional)	Perennial RPW (Jurisdictional)	Open Water (Non-Jurisdictional)	PEM Wetland (Non-Jurisdictional)
Open Water (Jurisdictional)	PEM Wetland (Jurisdictional)	PFO Wetland (Non-Jurisdictional)	PSS Wetland (Non-Jurisdictional)
PFO Wetland (Jurisdictional)			

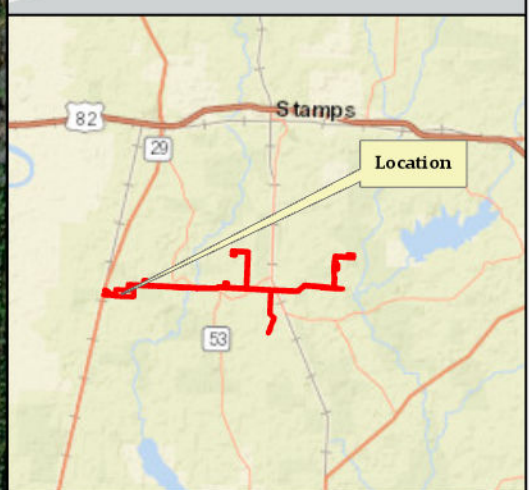
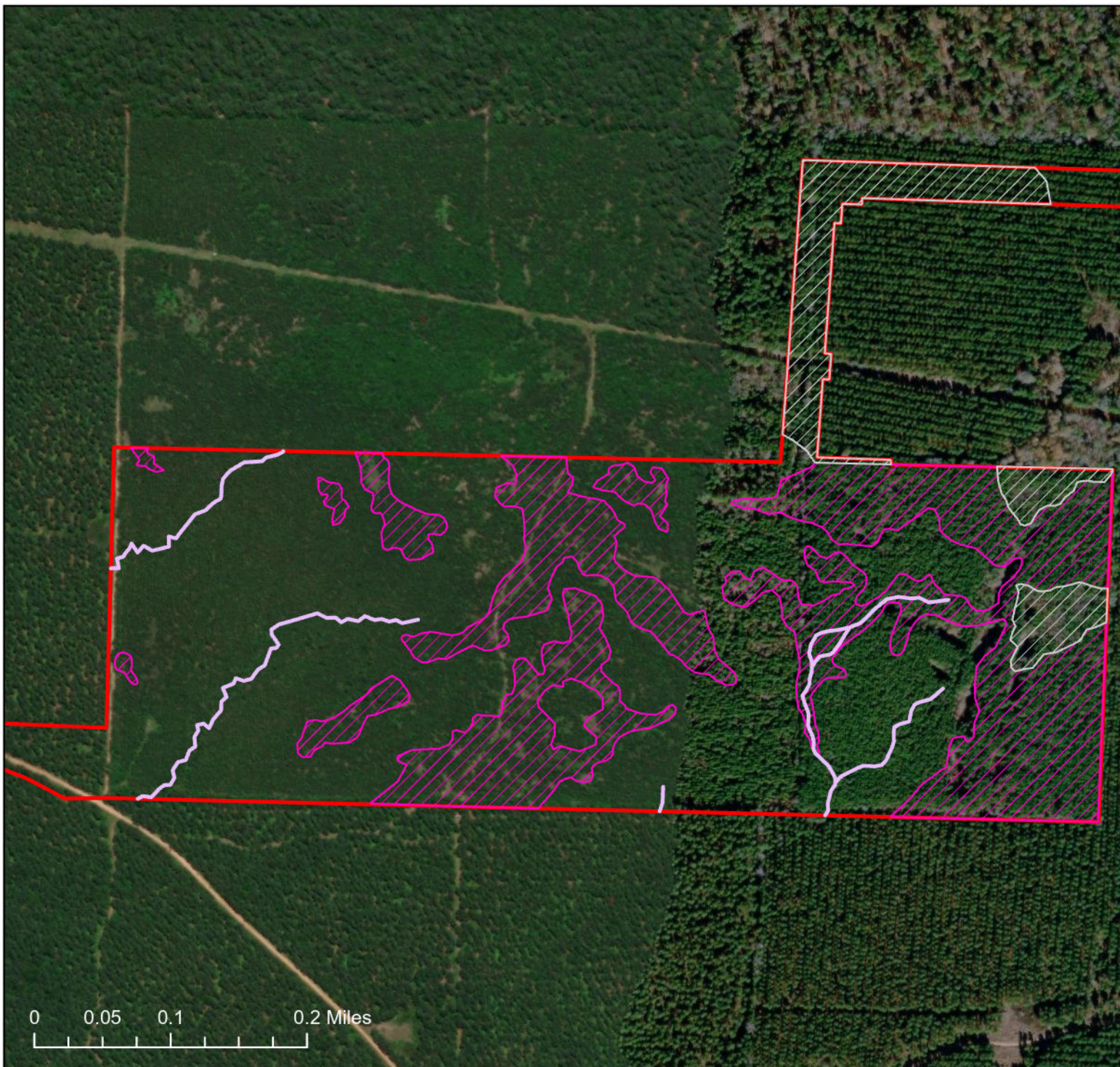
*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



Legend

AJD Boundary	Non-RPW (Non-Jurisdictional)
PJD Boundary	PEM Wetland (Non-Jurisdictional)
Intermittent RPW (Jurisdictional)	PFO Wetland (Non-Jurisdictional)
Open Water (Jurisdictional)	
PEM Wetland (Jurisdictional)	

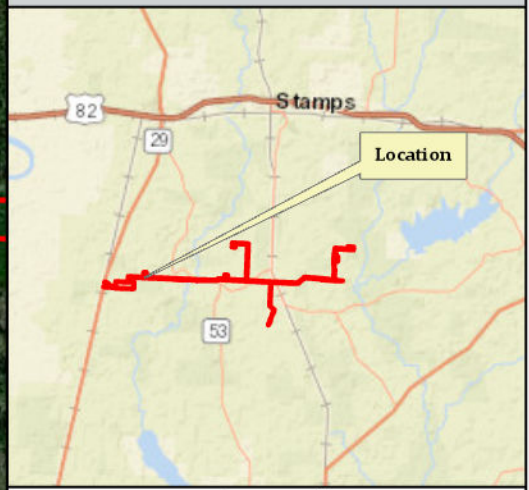
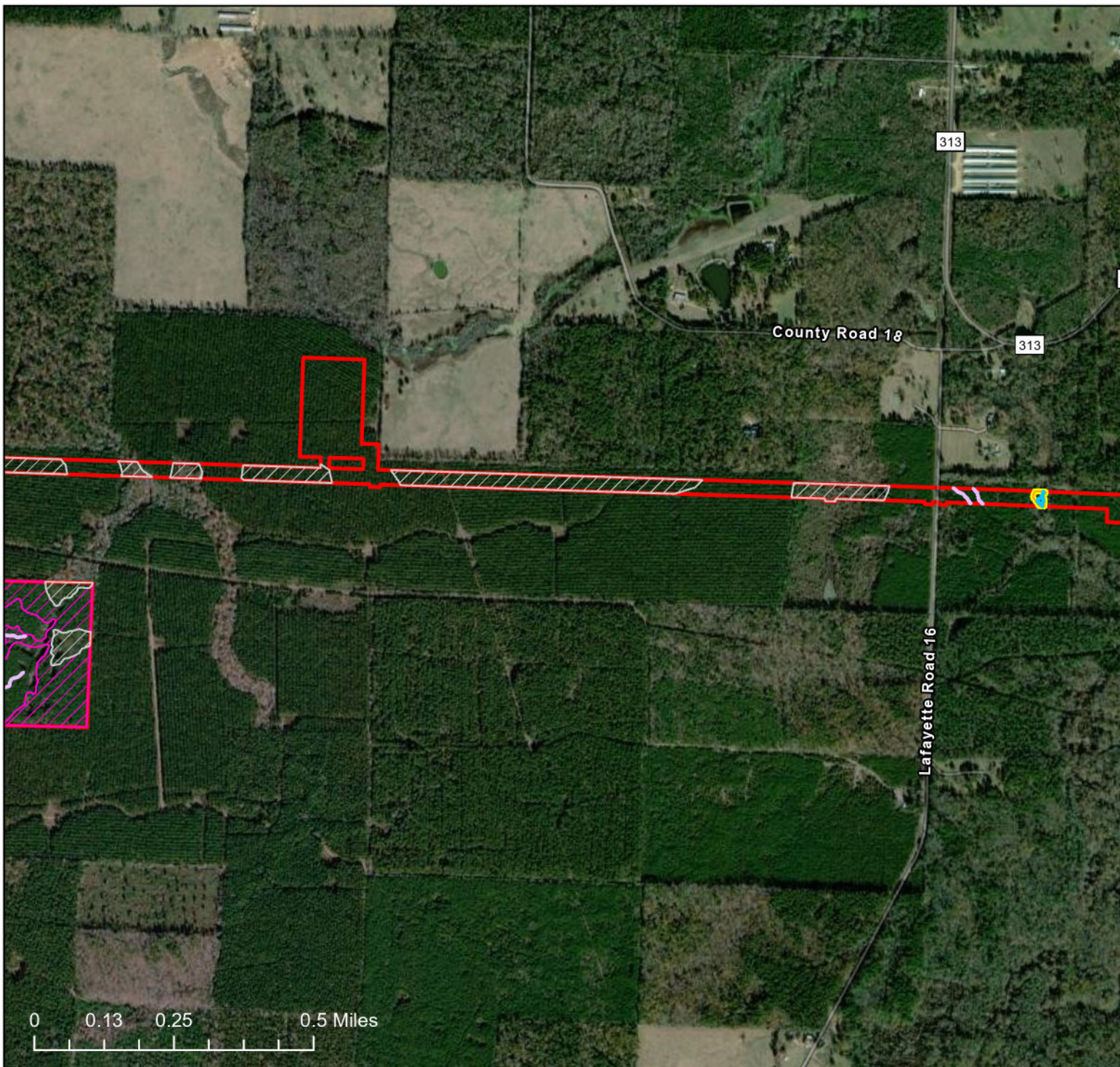
*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



Legend

- AJD Boundary
- Non-RPW (Non-Jurisdictional)
- PEM Wetland (Non-Jurisdictional)
- PFO Wetland (Non-Jurisdictional)

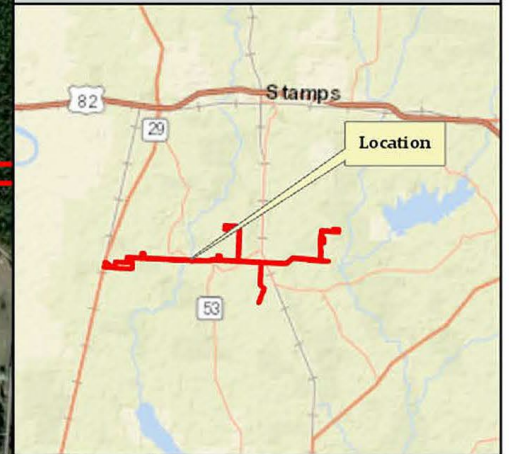
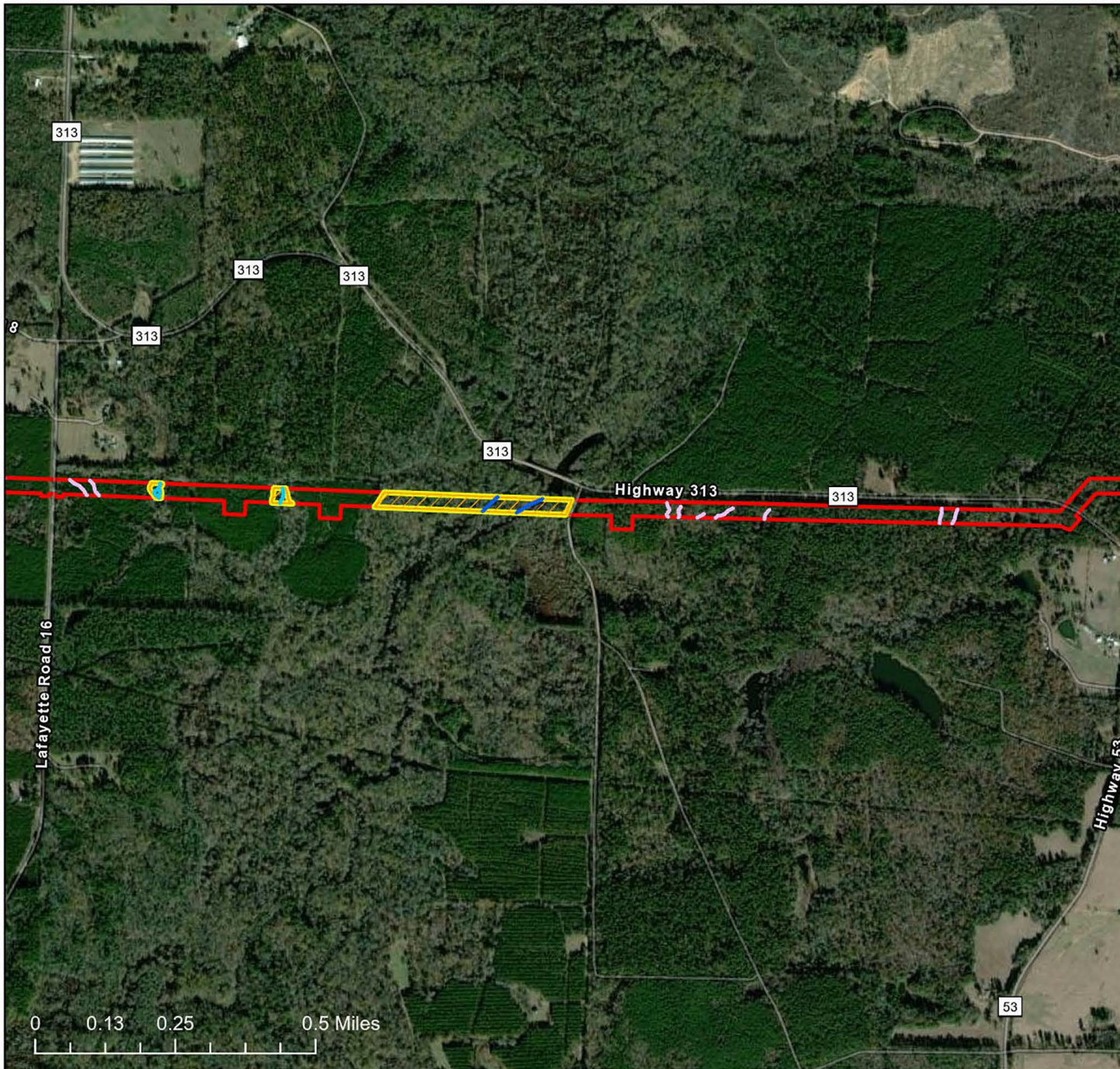
*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



Legend

- AJD Boundary
- PJD Boundary
- Intermittent RPW (Jurisdictional)
- PFO Wetland (Jurisdictional)
- Non-RPW (Non-Jurisdictional)
- PEM Wetland (Non-Jurisdictional)
- PFO Wetland (Non-Jurisdictional)

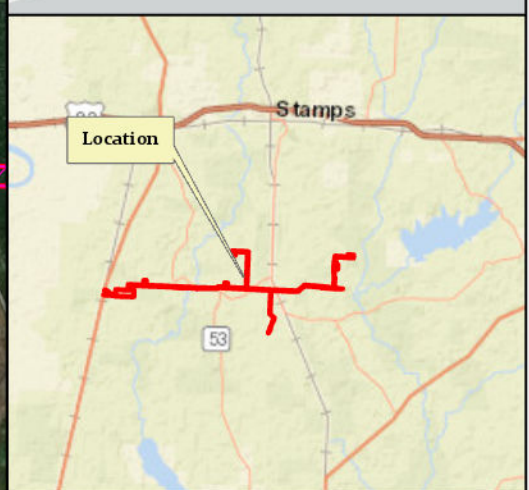
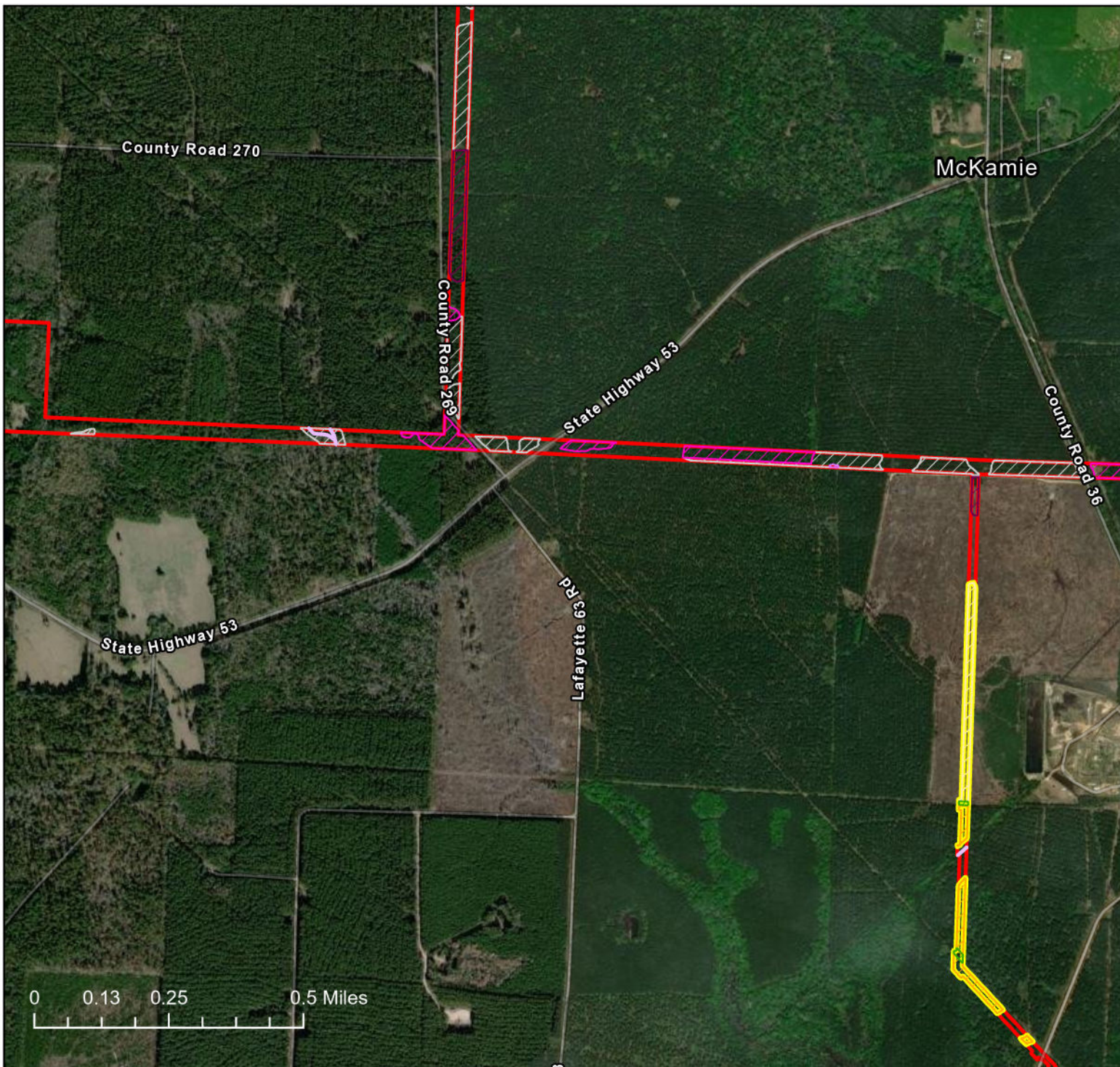
*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



Legend

AJD Boundary	PFO Wetland (Jurisdictional)
PJD Boundary	Non-RPW (Non-Jurisdictional)
Intermittent RPW (Jurisdictional)	PFO Wetland (Non-Jurisdictional)
Perennial RPW (Jurisdictional)	

*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



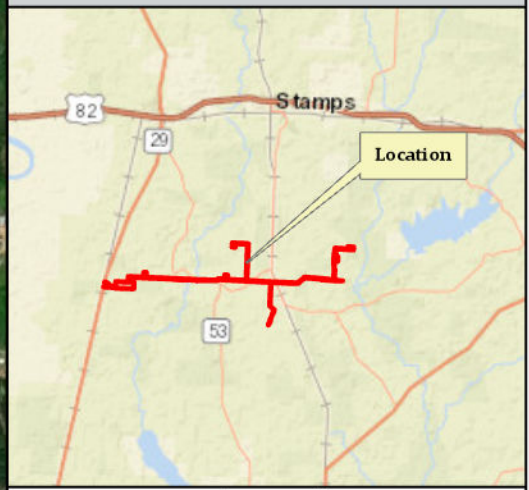
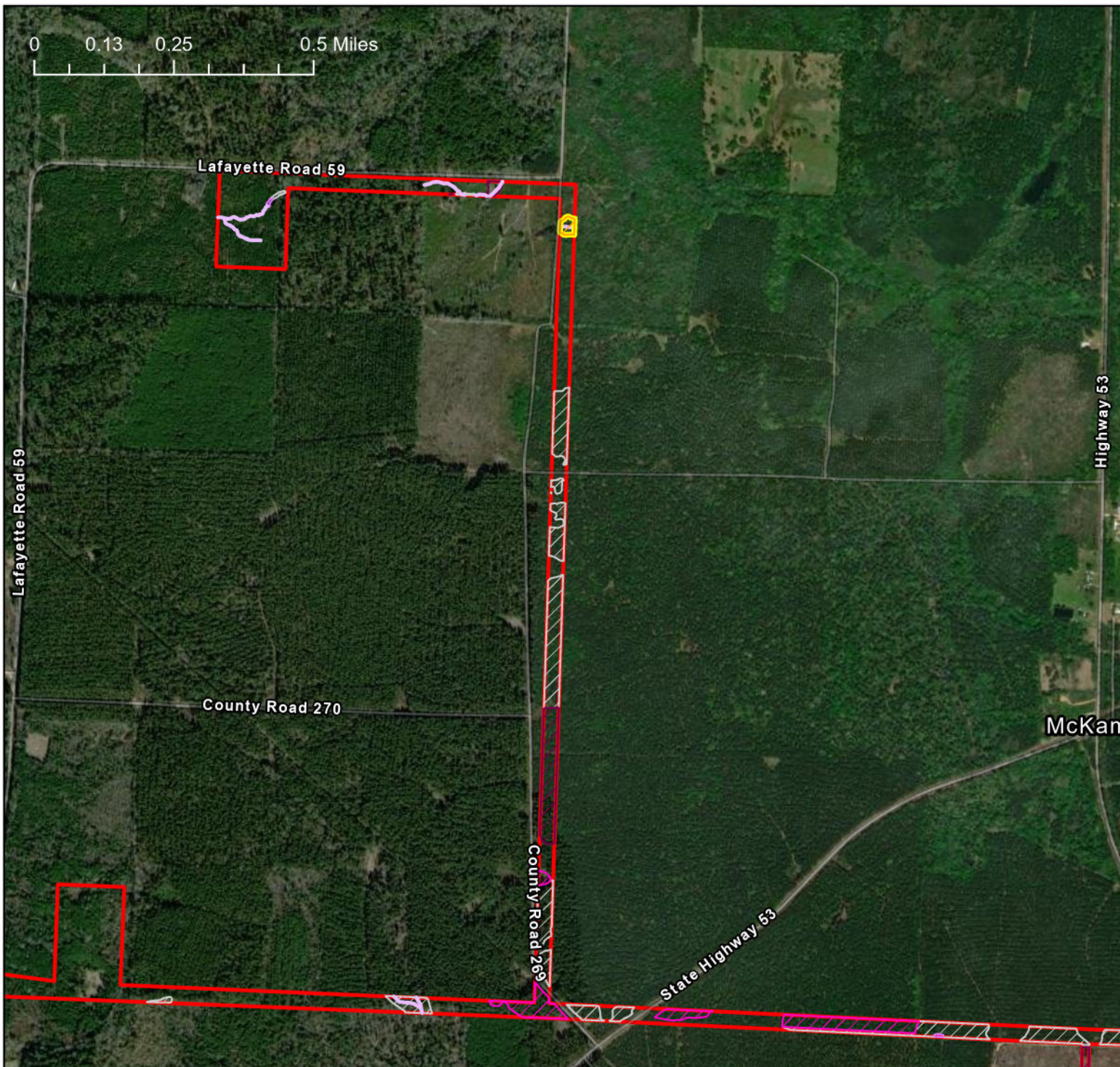
Legend

AJD Boundary	Open Water (Non-Jurisdictional)
PJD Boundary	PEM Wetland (Non-Jurisdictional)
PEM Wetland (Jurisdictional)	PFO Wetland (Non-Jurisdictional)
PFO Wetland (Jurisdictional)	PSS Wetland (Non-Jurisdictional)
PSS Wetland (Jurisdictional)	Non-RPW (Non-Jurisdictional)
Non-RPW (Non-Jurisdictional)	

*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



0 0.13 0.25 0.5 Miles



Legend

- AJD Boundary
- PJD Boundary
- PFO Wetland (Jurisdictional)
- Non-RPW (Non-Jurisdictional)
- Open Water (Non-Jurisdictional)
- PEM Wetland (Non-Jurisdictional)
- PFO Wetland (Non-Jurisdictional)
- PSS Wetland (Non-Jurisdictional)

*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1



MVK-2025-411

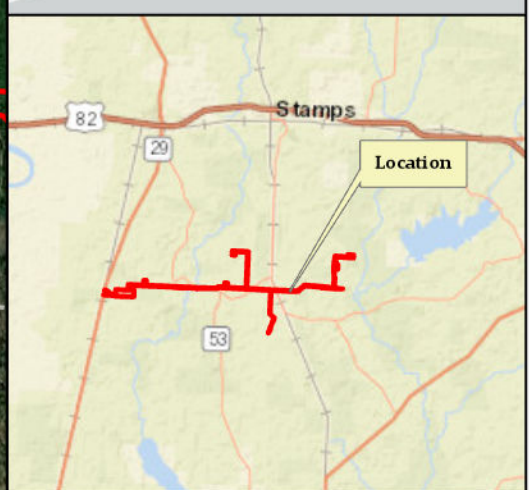
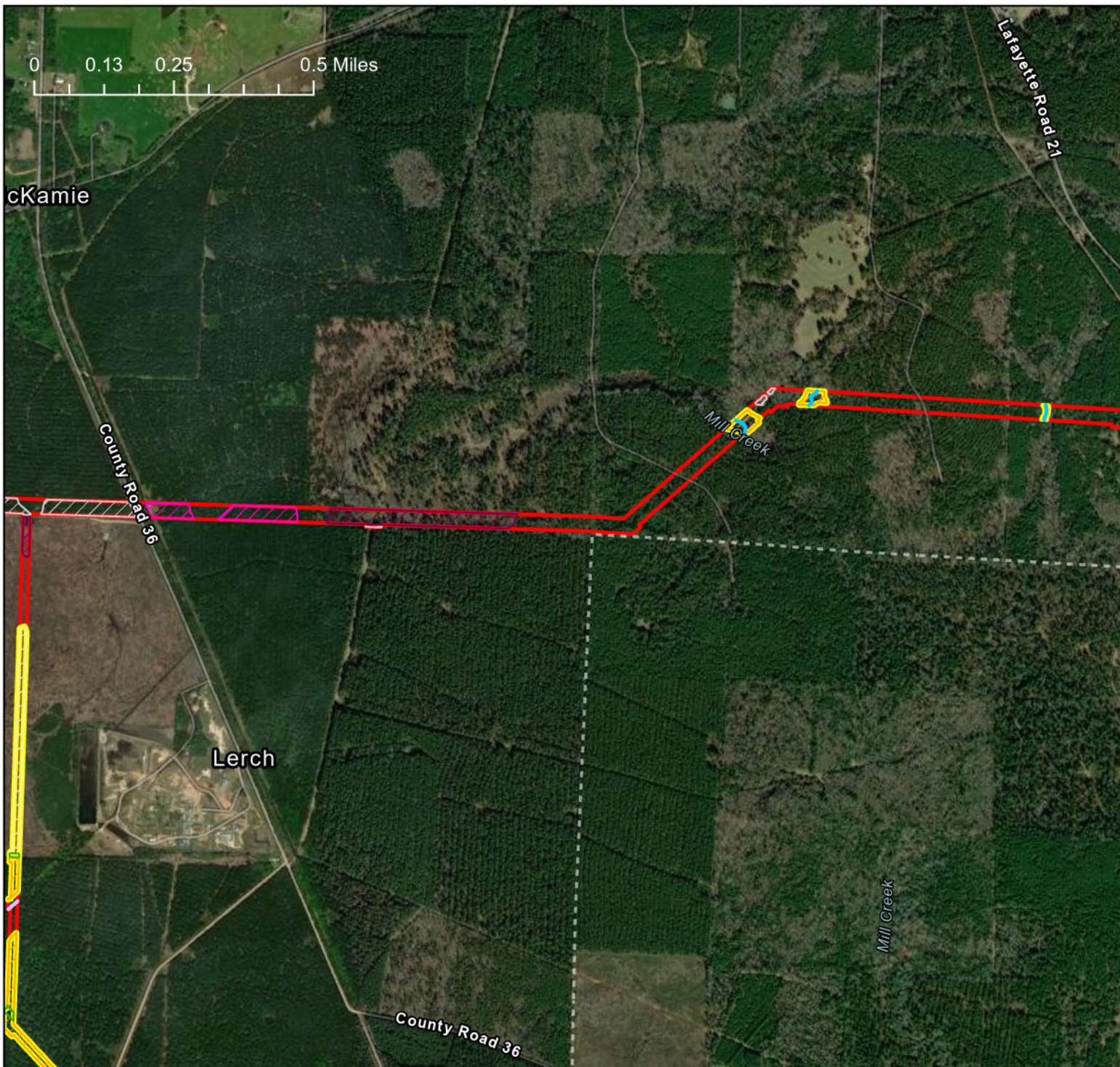
Proposed Construction of Lithium Processing Facility in Lafayette County, Arkansas

Preliminary/Approved Jurisdictional Determination

26 September 2025

Durham Norman



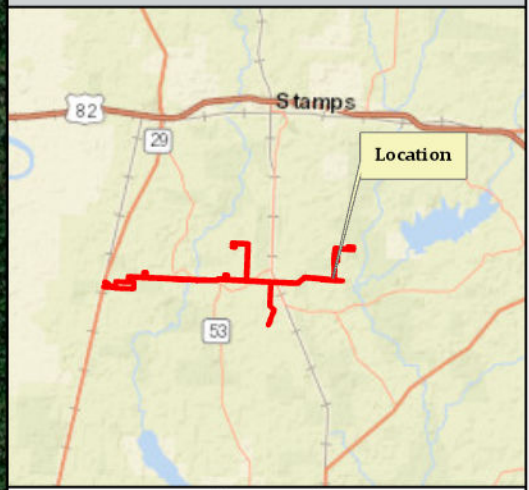
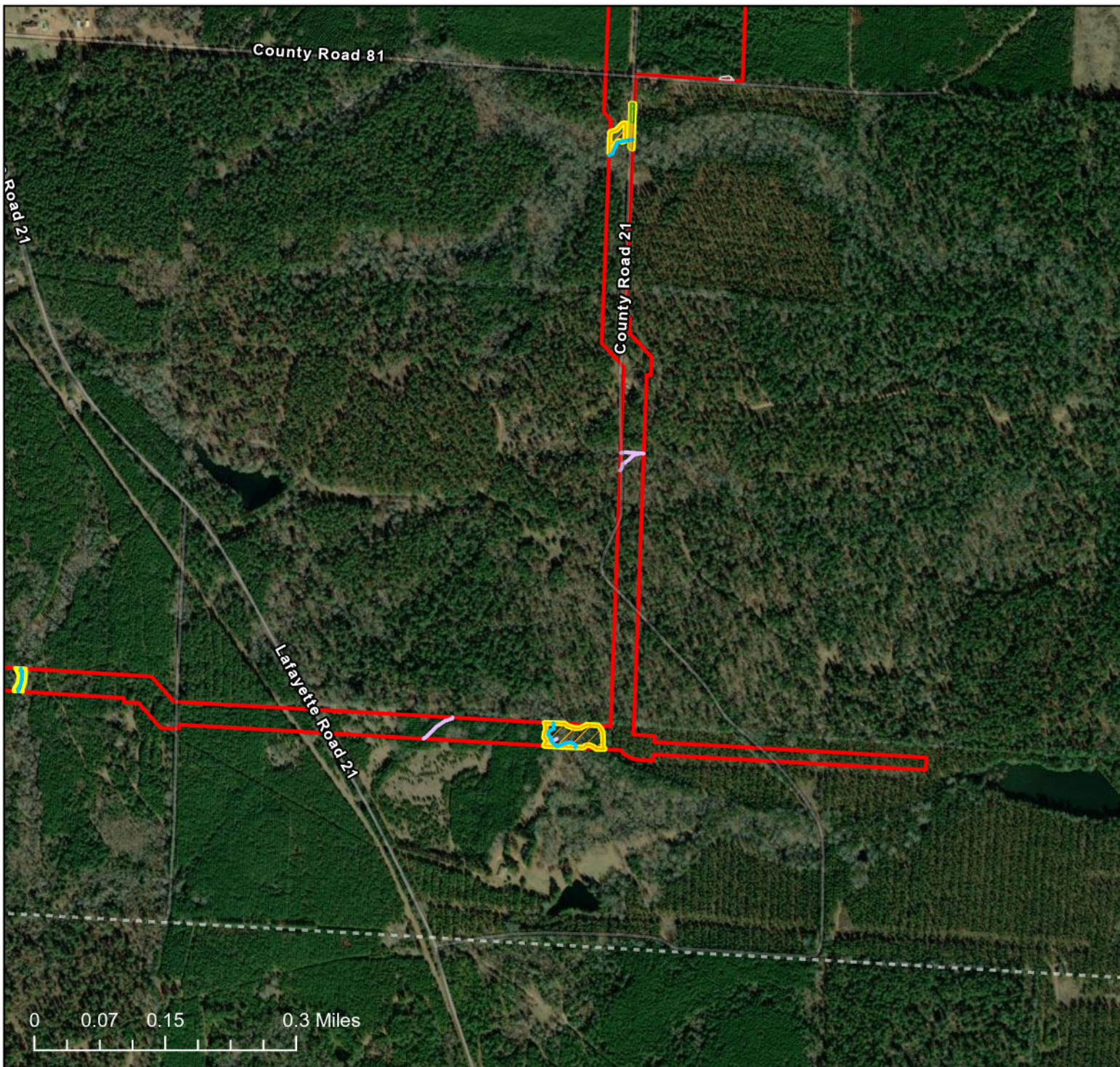


Legend

AJD Boundary	Non-RPW (Non-Jurisdictional)
PJD Boundary	PEM Wetland (Non-Jurisdictional)
Intermittent RPW (Jurisdictional)	PFO Wetland (Non-Jurisdictional)
PEM Wetland (Jurisdictional)	PSS Wetland (Non-Jurisdictional)
PFO Wetland (Jurisdictional)	
PSS Wetland (Jurisdictional)	

*There are wetlands or other waters of the U.S. within the Project Boundary.

ENCLOSURE 1

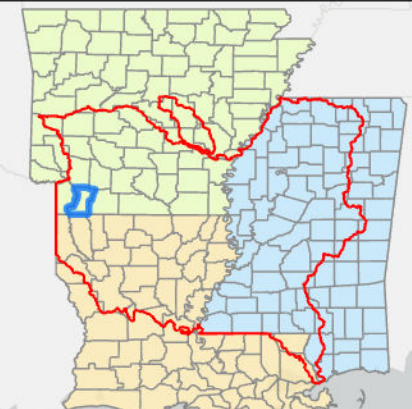
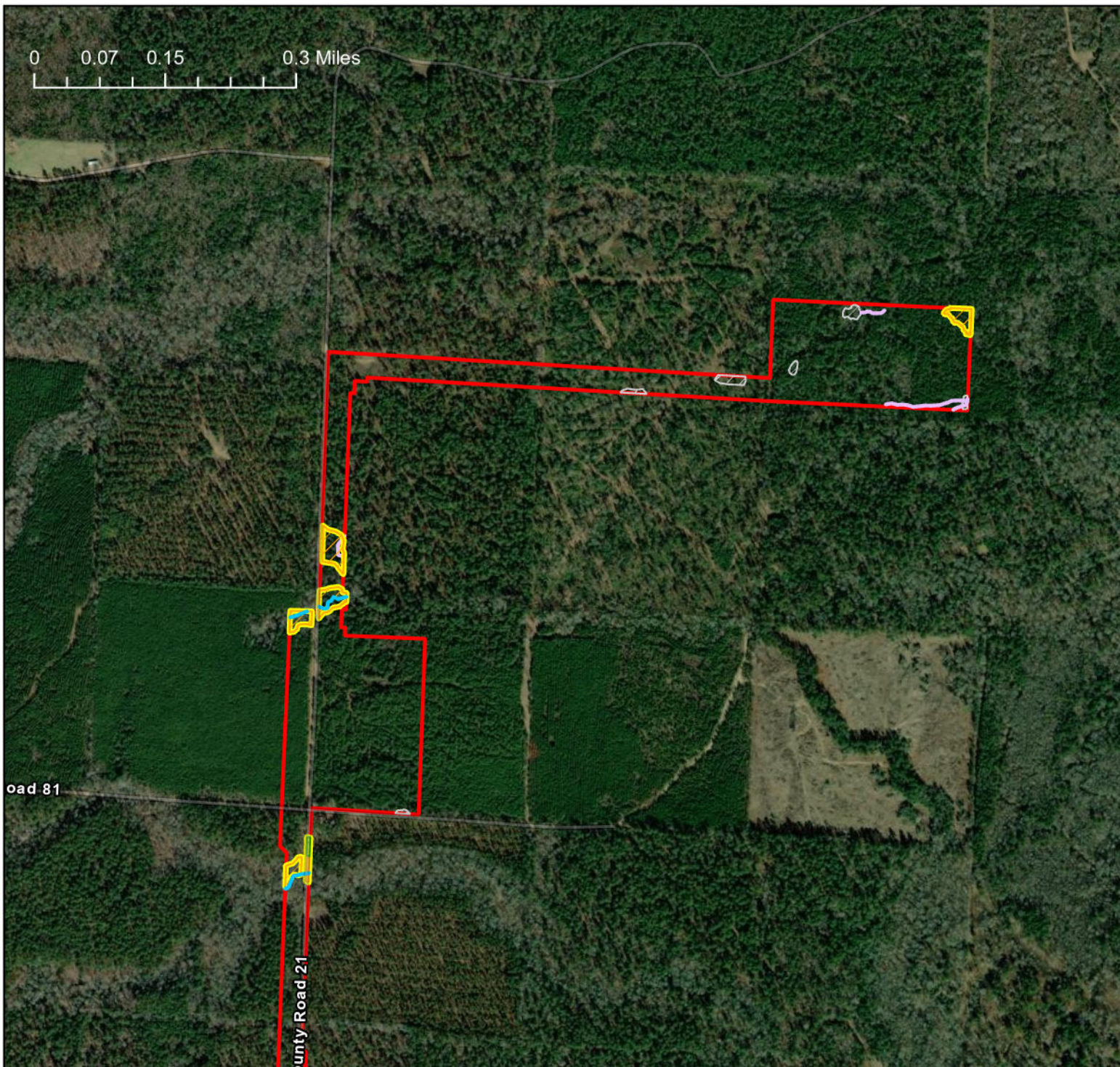


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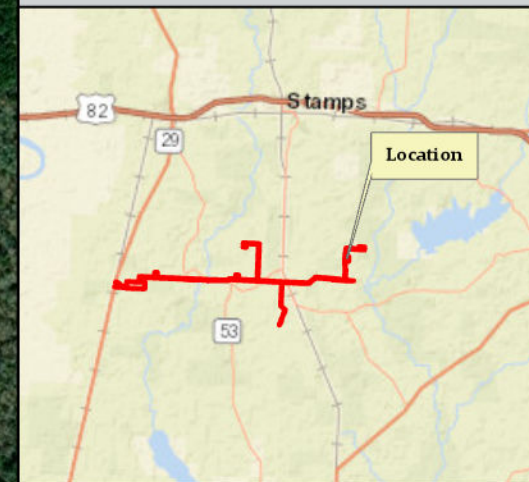
AJD Boundary	PFO Wetland (Jurisdictional)
PJD Boundary	Non-RPW (Non-Jurisdictional)
Intermittent RPW (Jurisdictional)	PFO Wetland (Non-Jurisdictional)
PEM Wetland (Jurisdictional)	

*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1

0 0.07 0.15 0.3 Miles



Lafayette County, Arkansas

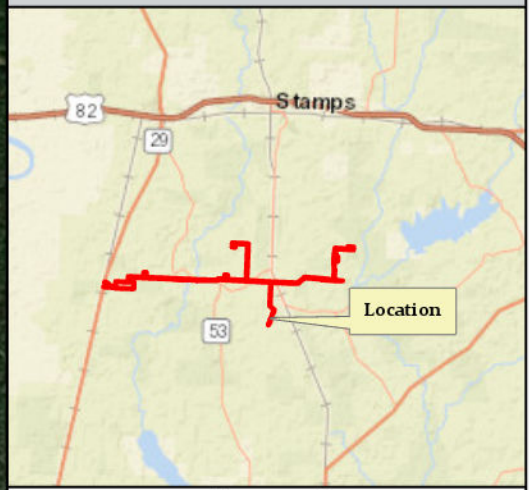
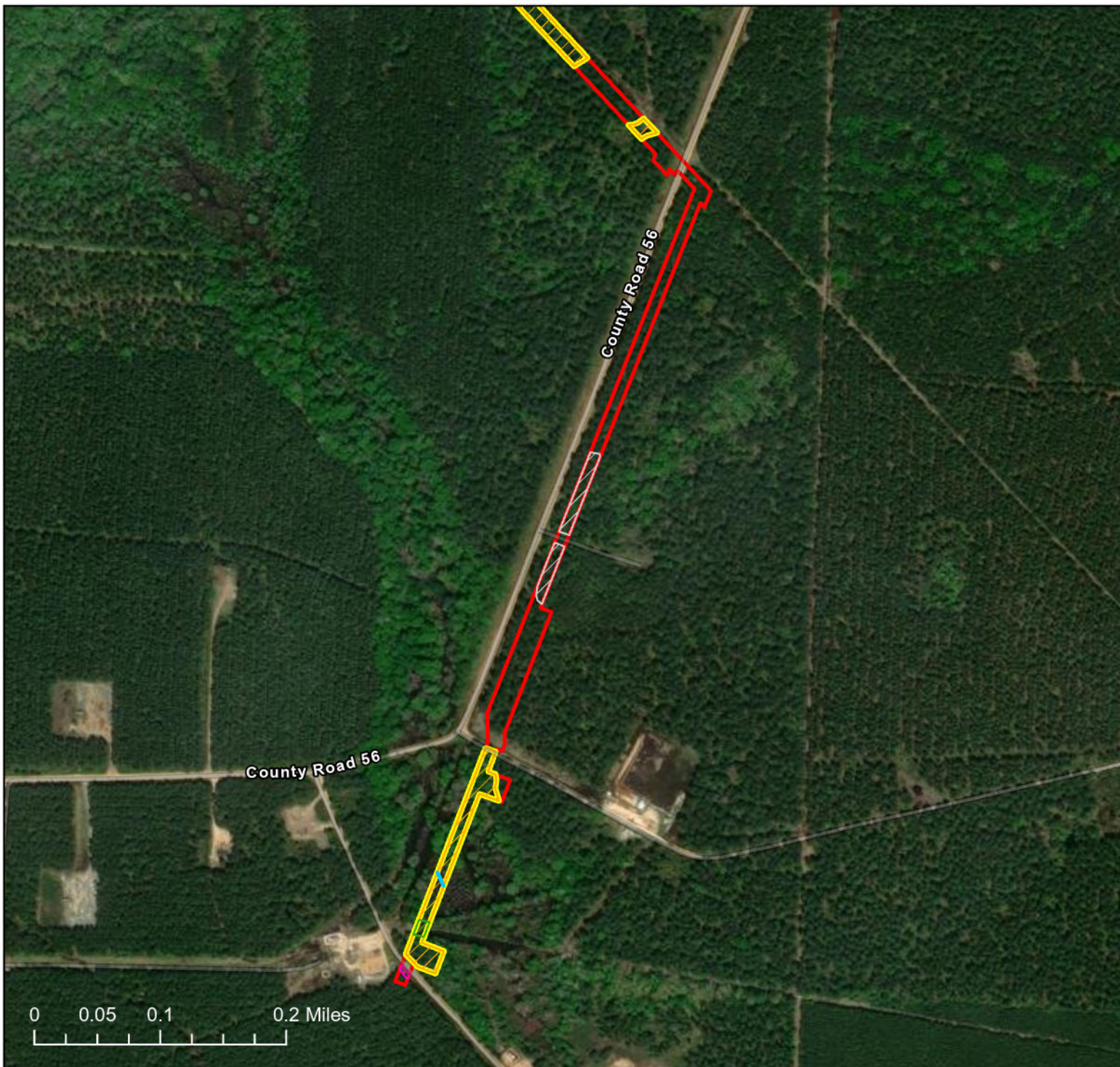


Legend

- AJD Boundary
- PJD Boundary
- Intermittent RPW (Jurisdictional)
- PEM Wetland (Jurisdictional)
- PFO Wetland (Jurisdictional)
- Non-RPW (Non-Jurisdictional)
- PFO Wetland (Non-Jurisdictional)

*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1





Legend

AJD Boundary	PFO Wetland (Jurisdictional)
PJD Boundary	PEM Wetland (Non-Jurisdictional)
Intermittent RPW (Jurisdictional)	PFO Wetland (Non-Jurisdictional)
PEM Wetland (Jurisdictional)	

*There are wetlands or other waters of the U.S. within the Project Boundary.
ENCLOSURE 1

U.S. FISH AND WILDLIFE SERVICE

September 23, 2025

Arkansas Ecological Services Field Office
110 South Amity Road, Suite 300
Conway, AR 72032-8975

Subject: DOE Section 7 Review/Informal Consultation Materials for the SWA Lithium "Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas" Project

Dear Representatives of the Arkansas Ecological Services Field Office,

Standard Lithium (also referred to as SWA Lithium) is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility (encompassing approximately 120 acres) that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility, and then reinject the barren tail brine back into the Smackover Formation. Casey Strickland and I are the NEPA Compliance Officers that are responsible for DOE's NEPA review of this proposed project.

In terms of actions and reports completed prior to this communication, SWA Lithium and their support contractors had previously completed two separate IPaC reviews of the project. For these, IPaC code 2025-0108805 pertains to the central processing facility area of potential effect, and IPaC code 2025-0118803 pertains to the wellfield area of potential effect. These IPaC reports have been provided for reference, and contain a more-detailed outline of the central processing facility and ancillary pipeline/wellfield infrastructure. Two separate threatened and endangered species assessments were also commissioned by SWA Lithium – one each for the central processing facility and wellfield areas. A bat acoustic survey/report was also completed encompassing both the central processing facility and wellfield areas. All of these reports have been attached for review.

DOE also completed a third IPaC review (code 2025-0151662) in order to combine the results of the two prior IPaC reports into a singular analysis – for the purposes of the NEPA review, DOE is considering both the central processing facility and wellfield sites as a singular undertaking. Note that my defined project area is much broader than the more-precise outline provided in the two applicant-completed IPaC reviews, but the results and findings from IPaC were the same when reconciling the three IPaC reports and D-Keys completed:

May Effect

- Northern Long-eared Bat
- Tricolored Bat
- Indiana Bat
- Red-cockaded Woodpecker

Not Likely to Adversely Effect

- Eastern Black Rail
- Piping Plover
- Rufa Red Knot

Determination Not Available from D-Key

- Alligator Snapping Turtle
- Monarch Butterfly

DOE is in the process of developing a Draft Environmental Assessment (DOE/EA-2304) for this project, which, when ready, will be submitted to your office for review and comment. Any interim comments or recommendations that your office may have in relation to the materials submitted today will inform the content of the Draft EA, but DOE is able and willing to discuss and meet with your office as needed through this initial informal consultation phase and the comment period for the Draft EA itself to work on final findings and avoidance/mitigation measures (if required).

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. FWS_DOE IPaC Species List_ Arkansas Ecological Services Field Office_2025-0151662.pdf
2. FWS_DOE Technical assistance letter_AR Statewide D-Key_2025-0151662.pdf
3. FWS_DOE Technical assistance letter_NLEE and Tricolored bat D-Key_2025-0151662.pdf

4. FWS_Applicant IPaC Species List and D-Key_CPF_Arkansas Ecological Services Field Office_2025-0108805.pdf
5. FWS_Applicant IPaC Species List and D-Key_Wellfield_Arkansas Ecological Services Field Office_2025-0118803.pdf
6. FWS_Central Processing Facility T&E Assessment.pdf
7. FWS_Wellfield T&E Assessment.pdf
8. FWS_Bat Acoustic Report.pdf
9. SWA Lithium - General Project Location Map.pdf
10. SWA Lithium- Project Components Map.pdf

cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory

Chris Davidson, Arkansas Ecological Services Field Office

Thomas Inebnit, Arkansas Ecological Services Field Office

Jason Hight, Arkansas Ecological Services Field Office

Garrett Huffstutler, Arkansas Ecological Services Field Office

Jason Phillips, Arkansas Ecological Services Field Office

Pedro Ardapple-Kindberg, Arkansas Ecological Services Field Office

Rebecca Peak, Arkansas Ecological Services Field Office



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:

12/17/2025 19:58:55 UTC

Project code: 2025-0151662

Project Name: Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas

Subject: Technical Assistance letter for 'Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas' for specified federally threatened and endangered species and designated critical habitat that may occur in your proposed project area consistent with the Arkansas Determination Key for project review and guidance for federally listed species (Arkansas Dkey).

Dear Stephen Witmer:

The U.S. Fish and Wildlife Service (Service) received on **December 17, 2025** your effect determination(s) for the 'Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas' (the Action) using the Arkansas DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance in the Service's Arkansas DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)	Threatened	NLAA
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	May affect
Piping Plover (<i>Charadrius melodus</i>)	Threatened	NLAA
Rufa Red Knot (<i>Calidris canutus rufa</i>)	Threatened	NLAA

Status

Consultation with the Service is not complete. Further consultation or coordination with the Arkansas Ecological Services Office is necessary for those species with a determination of "may affect" (MA) listed above. Please contact our office at 501-513-4470,

arkansas_es_clearance@fws.gov, or your agency point of contact in the Arkansas Ecological Services Office to discuss methods to avoid or minimize potential adverse effects to those species.

The Service concurs with the NLAA determination(s) for the species listed above. Your agency has met consultation requirements by informing the Service of the “No Effect” determinations. No further consultation for this project is required for these species. This letter confirms you may rely on effect determinations provided in the Arkansas Determination Key for project review and guidance for federally listed species to satisfy agency consultation requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.; ESA).

The Service recommends that your agency contact the Arkansas Ecological Services Field Office or re-evaluate this key in IPaC if: 1) the scope, timing, duration, or location of the proposed project changes, 2) new information reveals the action may affect listed species or designated critical habitat; 3) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Arkansas Ecological Services Field Office should take place before project changes are final or resources committed.

This letter only covers the listed species in the above table. The following species may also occur in the Action area:

- Alligator Snapping Turtle *Macrochelys temminckii* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Northern Long-eared Bat *Myotis septentrionalis* Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

If you determine your project may affect additional listed or proposed listed species not covered by the Arkansas ESFO DKey, please contact our office at 501-513-4470, arkansas_es_clearance@fws.gov, or your agency point of contact Arkansas ESFO to discuss methods to avoid or minimize potential adverse effects to those species. Candidate species are not afforded protection under the ESA; however, we recommend they be considered in project planning and that conservation measures be implemented to avoid or minimize impacts to individuals or their habitat as much as possible.

Bald and Golden Eagle Protection Act: The following resources are provided to project proponents and consulting agencies as additional information. Bald and golden eagles are not included in this section 7(a)(2) consultation and this information does not constitute a determination of effects by the Service.

The Service developed the National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with Bald Eagles when and under what circumstances the protective provisions of the Bald and Golden Eagle Protection Act may apply to their activities. The guidelines should be consulted prior to conducting new or intermittent activity near an eagle nest. Activity specific guidelines begin on page 10 of the document. To access a copy of the National Bald Eagle Management Guidelines please visit the

Service's Bald and Golden Eagle Management webpage and scroll down to the Guidance and Tools section: <https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

If the recommendations detailed in the National Bald Eagle Management Guidelines cannot be followed, you may apply for a permit to authorize removal or relocation of an eagle nest in certain instances. To obtain an application form or contact information for Regional Migratory Bird Permit Offices please visit the Service's Bald and Golden Eagle Management webpage and scroll down to the Permits section: <https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas

2. Description

The following description was provided for the project 'Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas':

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.2591534,-93.60196263390479,14z>



Species Protection Measures

QUALIFICATION INTERVIEW

1. Have you made an effects determination of "no effect" for all species in the area of the project?

A "no effect" determination means the project will have no beneficial effect, no short-term adverse effects, and no long-term adverse effects on any of the species on the IPaC-generated species list for the proposed project or those species habitat. A project with effects that cannot be meaningfully measured, detected or evaluated, effects that are extremely unlikely to occur, or entirely beneficial effects should not have a "no effect" determination. (If unsure, select "No").

No

2. Is the action authorized, funded, or being carried out by a Federal agency?

Yes

3. Are you the action agency or the designated non-federal representative?

Yes

4. Choose the agency you represent in this consultation with the U.S. Fish and Wildlife Service:

g. All other federal agencies or agency designees

5. [Semantic] Does the project intersect designated critical habitat for the Leopard Darter?

Automatically answered

No

6. [Semantic] Does the project intersect designated critical habitat for the Neosho Mucket?

Automatically answered

No

7. [Semantic] Does the project intersect designated critical habitat for Yellowcheek Darter?

Automatically answered

No

8. [Semantic] Does the project intersect designated critical habitat for Rabbitsfoot?

Automatically answered

No

9. [Semantic] Does the project intersect designated critical habitat for Ouachita Fanshell?

Automatically answered

No

10. [Semantic] Does the project intersect the American burying beetle consultation area?

Automatically answered

No

11. [Semantic] Does the project intersect the red-cockaded woodpecker species list area?

Automatically answered

No

12. [Semantic] Does the project intersect the Eastern black rail species list area?
Automatically answered
Yes
13. Will the project take place in freshwater herbaceous wetlands and/or wet prairies?
Yes
14. Will any part of the project take place between March 15 and May 15 OR between July 15 and October 1?
Yes
15. [Semantic] Does the project intersect the red knot species list area?
Automatically answered
Yes
16. Will the project affect sand and gravel areas or shorelines along rivers, lakes, or reservoirs?
No
17. Does the project take place in marshy or flooded open field habitat?
Yes
18. [Semantic (same answer as "8.3")] Will any part of the project take place between March 15 and May 15 OR between July 15 and October 1?
Automatically answered
Yes
19. [Semantic] Does the project intersect the Piping Plover species list area?
Automatically answered
Yes
20. [Semantic (same answer as "8.3" or "9.9")] Will any part of the project take place between March 15 and May 15 OR between July 15 and October 1?
Automatically answered
Yes
21. [Semantic] Does the project intersect the Whooping Crane species list area?
Automatically answered
No
22. [Semantic] Does the project intersect the interior least tern species list area?
Automatically answered
No
23. [Semantic] Does the project intersect the Gray Bat species list area?
Automatically answered
No
24. [Semantic] Does the project intersect the Ozark Big-eared Bat species list area?
Automatically answered
No

25. [Semantic] Does the project intersect the Indiana bat species list area?
Automatically answered
Yes
26. Are there any caves within 0.5 mile of the project area?
No
27. Does the project involve blasting of any type or tree removal of greater than 10 acres?
Yes
28. [Semantic] Does the project intersect the Benton County Cave Crayfish species list area?
Automatically answered
No
29. [Semantic] Does the project intersect the Hell Creek Cave Crayfish species list area?
Automatically answered
No
30. [Semantic] Does the project intersect the Ozark cavefish species list area?
Automatically answered
No
31. [Semantic] Does the project intersect the Missouri bladderpod species list area?
Automatically answered
No
32. [Semantic] Does the project intersect the Geocarpon species list area?
Automatically answered
No
33. [Semantic] Does the project intersect the Pondberry species list area?
Automatically answered
No
34. [Semantic] Does the project intersect the interior least tern range?
Automatically answered
No

IPAC USER CONTACT INFORMATION

Agency: Department of Energy
Name: Stephen Witmer
Address: 626 Cochran Mill Road
Address Line 2: Mailstop 921-227
City: Pittsburgh
State: PA
Zip: 15236
Email: stephen.witmer@netl.doe.gov
Phone: 4123867589

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)
- FAST-41



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:

12/17/2025 20:56:40 UTC

Project code: 2025-0151662

Project Name: Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas

Federal Nexus: yes

Federal Action Agency (if applicable): Department of Energy

Subject: Technical assistance for 'Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas'

Dear Stephen Witmer:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on December 17, 2025, for 'Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas' (here forward, Project). This project has been assigned Project Code 2025-0151662 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	May affect

Tricolored Bat (*Perimyotis subflavus*)Proposed
Endangered

May affect

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate. Projects that receive a may affect determination for tricolored bat through the key, should contact the appropriate Ecological Services Field Office if they want to conference on this species.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Alligator Snapping Turtle *Macrochelys temminckii* Proposed Threatened
- Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* Threatened
- Indiana Bat *Myotis sodalis* Endangered
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Piping Plover *Charadrius melodus* Threatened
- Rufa Red Knot *Calidris canutus rufa* Threatened

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

Conclusion

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of “May Affect.” A “May Affect” determination in this key indicates that the project, as entered, is not consistent with the questions in the key. Not all projects that reach a “May Affect” determination are anticipated to result in adverse impacts to listed species. These projects may result in a “No Effect”, “May Affect, Not Likely to Adversely Affect”, or “May Affect, Likely to Adversely Affect” determination depending on the details of the project. Please contact our Arkansas Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas

2. Description

The following description was provided for the project 'Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas':

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.2591534,-93.60196263390479,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Note for projects in Pennsylvania: Projects requiring authorization under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act would be considered as having a federal nexus. Since the U.S. Army Corps of Engineers (Corps) has issued the Pennsylvania State Programmatic General Permit (PASPGP), which may be verified by the PA Department of Environmental Protection or certain Conservation Districts, the need to receive a Corps authorization to perform the work under the PASPGP serves as a federal nexus. As such, if proposing to use the PASPGP, you would answer ‘yes’ to this question.

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum or winter roost? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your state wildlife agency.

Automatically answered

No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

No

12. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

No

13. Will the action cause effects to a bridge?

Note: Covered bridges should be considered as bridges in this question.

No

14. Will the action result in effects to a culvert or tunnel at any time of year?

Yes

15. Does the culvert or tunnel equal or exceed 23 feet (7.0 meters) in length?

No

16. Are trees present within 1000 feet of the action area?

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

17. Does the action include the intentional exclusion of bats from a building or building-like structure? **Note:** Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

No

18. Does the action involve removal, modification, or maintenance of a human-made building-like structure (barn, house, or other building) **known or suspected to contain roosting bats?**

No

19. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

Yes

20. Will any new road go through any area of contiguous forest that is greater than or equal to 10 acres in total extent?

Note: "Contiguous forest" of 10 acres or more may include areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres.

Yes

21. For every 1,000 feet of new road that crosses between contiguous forest patches, will there be at least one place where bats could cross the road corridor by flying less than 33 feet (10 meters) between trees whose tops are at least 66 feet (20 meters) higher than the road surface?

Yes

22. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

Note: For information regarding NSF/ANSI 60 please visit <https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects>

No

23. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

Yes

24. Does the action area intersect the northern long-eared bat species list area?

Automatically answered

Yes

25. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known NLEB hibernacula or winter roost? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

26. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

27. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency. Have you contacted the appropriate agency to determine if your action is within 150 feet of any documented northern long-eared bat roosts?

Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat roosts is available here. Location information for northern long-eared bat roosts is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

Automatically answered

No

28. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?

If unsure, answer "Yes."

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>.

Yes

29. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area?

No

30. Does the action area intersect the tricolored bat species list area?

Automatically answered

Yes

31. Is the action area located within 0.5-mile of radius of an entrance/opening to any known tricolored bat hibernacula or winter roost?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your state wildlife agency.

Automatically answered

No

32. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

33. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?

(If unsure, answer ""Yes."")

Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the [Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines](#).

Yes

34. Do you have any documents that you want to include with this submission?

No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Department of Energy
Name: Stephen Witmer
Address: 626 Cochran Mill Road
Address Line 2: Mailstop 921-227
City: Pittsburgh
State: PA
Zip: 15236
Email: stephen.witmer@netl.doe.gov
Phone: 4123867589

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)
- FAST-41



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:

12/17/2025 19:18:18 UTC

Project Code: 2025-0151662

Project Name: Domestic Production of Lithium Carbonate from the Smackover Formation
Brines in Southern Arkansas

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2025-0151662

Project Name: Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas

Project Type: Pipeline - Onshore - New Constr - Below Ground

Project Description: SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.2591534,-93.60196263390479,14z>



Counties: Columbia and Lafayette counties, Arkansas

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Energy
Name: Stephen Witmer
Address: 626 Cochran Mill Road
Address Line 2: Mailstop 921-227
City: Pittsburgh
State: PA
Zip: 15236
Email: stephen.witmer@netl.doe.gov
Phone: 4123867589

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)
- FAST-41



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arkansas Ecological Service Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032



January 28, 2026

Stephen Witmer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236

Dear Mr. Witmer:

The U.S. Fish and Wildlife Service (Service) reviewed the information supplied in the January 23, 2026, packet requesting formal Section 7 consultation on the proposed SWA Lithium “Southwest Arkansas Project” in Lafayette County, Arkansas (IPaC Project Code 2025-0151662). These comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.; ESA).

Based on the formal consultation packet and the September 4, 2025, report *Listed Bat Acoustics Survey for the SWA Lithium LLC – Southwest Arkansas Project in Lafayette County, Arkansas*, forested habitat in the action area was identified as occupied roosting, foraging, and commuting habitat for the Indiana bat (*Myotis sodalis*). The proposed action will require removal of this habitat, which could result in adverse effects to the species.

The project proponent requested to address these potentially adverse effects through a voluntary contribution to the Arkansas Bat Fund, which is a recovery-focused conservation option included in the Service’s Bat Conservation Strategy for the State of Arkansas (BCS). The Service completed a Biological Opinion (BO) that supports the BCS and determined that suitable forested habitat removal is likely to adversely affect the species but is not likely to jeopardize its continued existence. After reviewing the proposed action, the Service determined that the proposed action is consistent with the actions evaluated in the BO, and that the proposed contribution to the Arkansas Bat Conservation Fund in the Project Proponents January 26, 2026, correspondence is appropriate to address adverse effects to the species. Therefore, the take exemption for Indiana bat in the BO is applicable to the proposed action, and any incidental take of this species from forested habitat removal associated with the proposed action is not prohibited.

The proposed action is located within Summer 1 habitat for the Indiana bat. The project proponent is committing to remove 74.23 acres of suitable forested Indiana bat habitat outside of the pup season (May 15 – July 31). Removal of suitable forested habitat in this habitat type during this timeframe has a maximum conservation multiplier of 2.0. Based on the contribution process described in the BCS, the Arkansas Bat Fund contribution amount is \$694,051.

To make the Arkansas Bat Fund contribution, the Applicant should mail a check or money order to the Arkansas Fund for Habitat Conservation at the address provided below using USPS standard or priority mail only. Mail cannot be received using other delivery services, and signatures cannot be provided on delivery. The check or money order must be made payable to “Arkansas Fund for Habitat Conservation”, with “Arkansas Bat Fund” in the memo line. Additional information that must be enclosed with the payment includes the IPaC project code from this letter (IPaC Project Code 2025-0151662), the project name used in this letter, and a contact name and email address where the payment receipt should be sent. Failure to include this information may delay processing or result in return of payment to the sender.

All information required to initiate consultation was either included in the letters or is otherwise accessible for consideration and reference. Payment to the Arkansas Bat Fund will conclude formal consultation requirements under the BCS, its BO, and Section 7 of the ESA.

Service staff also reviewed the information associated with the “may affect, not likely to adversely affect” determination for rufa red knot (*Calidris canutus rufa*), piping plover (*Charadrius melodus*), and eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*). Based on the project description and location, the Service concurs that the proposed action will not adversely affect these species. The Service also acknowledges the “no jeopardy” determination for tricolored bat (*Perimyotis subflavus*).

If you have any questions or concerns, please contact Garrett Huffstutler at 501-764-6811 or at garrett_huffstutler@fws.gov.

Arkansas Bat Fund
c/o Jim Taylor
Arkansas Fund for Habitat Conservation
2716 Cedar Valley Drive,
Greenwood, AR 72936
Phone: (479) 459 5889
Email: jim@arhabitatfund.org

Sincerely,

Jason Hight
Arkansas Field Supervisor



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arkansas Ecological Service Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032



February 13, 2026

Stephen Witmer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236

Dear Mr. Witmer:

This letter is in reference to the U.S. Fish and Wildlife Service (Service) January 28, 2026, letter concurring with the U.S. Department of Energy's (DOE) request to initiate consultation on the proposed SWA Lithium "Southwest Arkansas Project" in Lafayette County, Arkansas (IPaC Project Code 2025-0151662). These comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.; ESA).

The Arkansas Fund for Habitat Conservation confirmed receipt of Standard Lithium's contribution to the Arkansas Bat Fund in the amount of \$694,051. With receipt of this payment, the recovery-focused conservation option under the Service's Bat Conservation Strategy for the State of Arkansas (BCS) is complete. The Service's biological opinion that supports the BCS concludes formal consultation for Indiana bat (*Myotis sodalis*). Incidental take associated with forested habitat removal is exempt from prohibition under the ESA, consistent with the terms and conditions of the biological opinion.

The Service also acknowledges the DOE's no jeopardy determinations for alligator snapping turtle (*Macrochelys temminckii*) and monarch butterfly (*Danaus plexippus*). The Service's December 17, 2025, technical assistance letter provides concurrence for other listed species expected to occur within the action area. Section 7 consultation requirements for all species that are expected to occur in the Action Area have been met.

Reinitiating consultation is required if the amount or extent of incidental take is exceeded; new information reveals that the Action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; the Action is modified in a manner that causes effects to listed species or designated critical habitat not previously considered; or if a new species is listed or critical habitat designated that the Action may affect. For any questions or concerns, please contact Garrett Huffstutler at 501-764-6811 or garett_huffstutler@fws.gov.

Sincerely,

Jason Hight
Arkansas Field Supervisor

STATE HISTORIC PRESERVATION OFFICER AND TRIBES

From: [Witmer, Stephen M.](mailto:Stephen.M.Witmer@netl.doe.gov)
To: matthew.tselee@apachetribe.org
Cc: [Strickland, Casey L.](mailto:Casey.Strickland@netl.doe.gov)
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Tuesday, May 27, 2025 3:21:00 PM
Attachments: [image001.png](#)
[SWA Lithium - General Project Location Map.pdf](#)
[SWA Lithium- Project Components Map.pdf](#)

Good afternoon, Chairman Tselee. My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting you is because myself and a colleague (Casey Strickland – copied) have been assigned as NEPA Compliance Officers for a pending NEPA action for a proposed award to SWA Lithium. SWA Lithium’s proposed project is titled “Commercial Domestic Production of Lithium Hydroxide from the Smackover Formation Brines in Southern Arkansas Using Direct Lithium Extraction Technology.”

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The reason I am contacting you now is to provide an advance notice of future consultation under Section 106 with your tribal nation regarding this proposed project. We are in the early stages of developing an Environmental Assessment for this proposed project, and field surveys (including a Phase One cultural resource survey encompassing the area of potential effect for the processing facility, well sites, and pipeline infrastructure) are in progress – with findings to be available in early June 2025. When those surveys and findings are completed, I will re-engage with you to provide those materials and work with your tribal nation moving forward as part of the NEPA Environmental Assessment and Section 106 consultation process.

For now I have attached high-level maps of the area of potential effect for reference, but we acknowledge that this is not a full submission for review at this time. The purpose for communicating here is to provide advance notice to your tribal nation regarding this pending action, and to establish points-of-contact and lines of communication for this proposed project and the NEPA process moving forward.

Please let us know if you happen to have any interim guidance or recommendations for this project, or protocols for communicating moving forward. Unless you have a preference otherwise, future communications with your tribal nation will be done via both email and hard copy mail.

We're looking forward to working with you and your tribal nation. Thanks!

Stephen M. Witmer

NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory

626 Cochran Mill Road, Pittsburgh, PA 15236

M/S 921-227

stephen.witmer@netl.doe.gov

Office: 412-386-7589

Office days: Tuesday, Wednesday



September 30, 2025

Durrell Cooper
Chairman
Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Mr. Cooper,

As a follow-up to emails and files previously submitted to the Apache Tribe of Oklahoma, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _ Wellfield Area.pdf

cc:

Matthew Tselee, Vice-Chairman, Apache Tribe of Oklahoma

September 30, 2025

Matthew Tselee
Vice-Chairman
Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Mr. Tselee,

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Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _ Wellfield Area.pdf

cc:

Durell Cooper, Chairman, Apache Tribe of Oklahoma



Sarah Huckabee Sanders

Governor

Shea Lewis

Secretary

September 11, 2025

Mr. Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236

RE: Lafayette County: General
Section 106 Review: DOE
Proposed Undertaking: SWA Lithium "Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas
Cultural Resources Survey Report: *Cultural Resources Survey Report for the SWA Lithium Central Processing Facility Project*
AHPP Tracking Number: 113835.01

Dear Mr. Witmer:


The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the Cultural Resources Survey Report (CRS) for the aforementioned undertaking in Sections 20, and 21, Township 17 South, Range 24 West approximately fifteen miles west of Magnolia in Lafayette County, Arkansas. The project proposes to design, construct, and operate a lithium extraction and processing facility along with a network of extraction and reinjection wells within the Smackover Formation. This cultural resources survey covers the area of potential effect (APE) associated with the central processing facility that will extract lithium chloride from brine using direct lithium extraction technology and will convert it to a purified, battery quality lithium carbonate product for sale to the electric vehicle market. The APE for the central processing facility encompasses approximately 137 acres.

A records check revealed no previously recorded archeological sites and no AHPP historic structures in or near the APE. One cultural resources survey was conducted near the APE but did not extend into the APE. The CRS consisted of an intensive pedestrian survey with staggered shovel tests. Standing water and timber deposits prohibited shovel testing every 20 meters and a total of 329 shovel tests were excavated at an estimated 30-meter interval. All shovel tests along with the pedestrian survey were negative for cultural materials.

Based on the information provided, the AHPP concurs with the finding of **no historic properties affected pursuant to 36 CFR § 800.4(d)(1)** for the proposed undertaking. In the event of a post-review discovery of historic properties within the area of potential effects, please contact the AHPP and other consulting parties in accordance with 36 CFR § 800.13(b)(3).

Thank you for the opportunity to review this CRS. If you have any questions, please contact Jessica Cogburn at jessica.cogburn@arkansas.gov.

Sincerely,
Jessica
Cogburn

 Digitally signed by Jessica
Cogburn
Date: 2025.09.11
09:42:06 -05'00'

for
Scott Kaufman
State Historic Preservation Officer and Director, AHPP

Cc: Dr. Melissa Zabecki, State Archeologist, Arkansas Archeological Survey

From: Witmer, Stephen M.
To: bgonzalez@mycaddonation.com; jrohrer@mycaddonation.com
Cc: Strickland, Casey L.
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Tuesday, May 27, 2025 3:32:00 PM
Attachments: [image001.png](#)
[SWA Lithium - General Project Location Map.pdf](#)
[SWA Lithium- Project Components Map.pdf](#)

Good afternoon, Mr. Gonzalez and Mr. Rohrer. My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting you is because I and a colleague (Casey Strickland – copied) have been assigned as NEPA Compliance Officers for a pending NEPA action for a proposed DOE financial assistance award to SWA Lithium. SWA Lithium’s proposed project is titled “Commercial Domestic Production of Lithium Hydroxide from the Smackover Formation Brines in Southern Arkansas Using Direct Lithium Extraction Technology.”

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Please let us know if you happen to have any interim guidance or recommendations for this project, or protocols for communicating moving forward. Unless you have a preference otherwise, future communications with your tribal nation will be done via both email and hard copy mail.

We're looking forward to working with you and your tribal nation. Thanks!

Stephen M. Witmer

NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory

626 Cochran Mill Road, Pittsburgh, PA 15236

M/S 921-227

stephen.witmer@netl.doe.gov

Office: 412-386-7589





August 12, 2025

Bobby Gonzalez
Chairman
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009

Subject: Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas”

Dear Mr. Gonzalez,

As a follow-up to my initial email originally sent on 5/27/2025, a cultural resource survey report is now available for a portion of the area of potential effect for SWA Lithium’s proposed project now titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

This survey was completed to only encompass the area of the central processing facility – **an additional survey report is forthcoming that will cover the ancillary wellfield areas (encompassing well pads and pipeline infrastructure that will connect to the central processing facility)**. When that survey report is available (estimated within the next two weeks), I will forward to you for review and comment.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

Hard copies of all cultural resource survey reports and the Draft EA will be mailed to you, in addition to these electronic submissions.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227

Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,

Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project_CPF area.pdf
2. SWA Lithium_Project Components Map.pdf
3. SWA Lithium_General Project Location Map.pdf
4. Caddo Nation of Oklahoma_Initial NEPA and Section 106 Communication_5-27-2025.pdf

cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory
Corey Carmack, Tribal Liaison, Department of Energy - Office of Manufacturing Energy Supply Chains
Jonathan Rohrer, Tribal Historic Preservation Officer, Caddo Nation of Oklahoma

August 12, 2025

Jonathan Rohrer
Tribal Historic Preservation Officer
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009

Subject: Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas”

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NEPA Compliance Officer

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cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory
Corey Carmack, Tribal Liaison, Department of Energy - Office of Manufacturing Energy Supply Chains
Bobby Gonzalez, Chairman, Caddo Nation of Oklahoma



November 21, 2025

Roger Cain
Tribal Historic Preservation Officer
United Keetoowah Band of Cherokee Indians in Oklahoma
P.O. Box 746
Tahlequah, OK 74465

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Mr. Cain,

My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL). The reason I am contacting you is because I am a NEPA Compliance Officer for a proposed DOE award to SWA Lithium. SWA Lithium’s proposed project is titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, plus a six-acre access road. The ancillary 15-mile network of extraction/reinjection wells and pipelines to the central processing facility will require approximately 330 acres of land use and disturbance.

I have provided two cultural resource survey reports (one encompassing the central processing facility area of potential effect, and one encompassing the wellfield and pipeline area of potential effect), plus maps of the entire project area, for your review and comment.


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Stephen Witmer
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U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

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cc:

Jeff Wacoche, Chief, United Keetoowah Band of Cherokee Indians in Oklahoma



November 21, 2025

Jeff Wacoche
Chief
United Keetoowah Band of Cherokee Indians in Oklahoma
P.O. Box 746
Tahlequah, OK 74465

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

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Stephen Witmer
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U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
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Sincerely,



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4. SWA Lithium_Project Components Map.pdf

cc:

Roger Cain, Tribal Historic Preservation Officer, United Keetoowah Band of Cherokee Indians in Oklahoma

From: Witmer, Stephen M.
To: mbell@coushatta.org; kponcho@coushatta.org
Cc: Strickland, Casey L.
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Tuesday, May 27, 2025 3:56:00 PM
Attachments: [image001.png](#)
[SWA Lithium - General Project Location Map.pdf](#)
[SWA Lithium- Project Components Map.pdf](#)

Good afternoon. My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting you is because I and a colleague (Casey Strickland – copied) have been assigned as NEPA Compliance Officers for a pending NEPA action for a proposed DOE financial assistance award to SWA Lithium. SWA Lithium’s proposed project is titled “Commercial Domestic Production of Lithium Hydroxide from the Smackover Formation Brines in Southern Arkansas Using Direct Lithium Extraction Technology.”

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The reason I am contacting you now is to provide an advance notice of future communications under NEPA and Section 106 with your tribal nation regarding this proposed project. We are in the early stages of developing an Environmental Assessment for this proposed project, and field surveys (including a Phase One cultural resource survey encompassing the area of potential effect for the processing facility, well sites, and pipeline infrastructure) are in progress – with findings available in early June 2025. When those surveys and findings are completed, I will re-engage with you to provide those materials and work with your tribal nation moving forward as part of the NEPA Environmental Assessment and Section 106 review process.

For now I have attached high-level maps of the area of potential effect for reference, but we acknowledge that this is not a full submission for review at this time. The purpose for communicating here is to provide advance notice to your tribal nation regarding this pending action, and to establish points-of-contact and lines of communication for this proposed project and the NEPA process moving forward.

Please let us know if you happen to have any interim guidance or recommendations for this project, or protocols for communicating moving forward. Unless you have a preference otherwise, future communications with your tribal nation will be done via both email and hard copy mail.

We're looking forward to working with you and your tribal nation. Thanks!

Stephen M. Witmer

NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory

626 Cochran Mill Road, Pittsburgh, PA 15236

M/S 921-227

stephen.witmer@netl.doe.gov

Office: 412-386-7589



September 30, 2025

Kristian Poncho
Tribal Historic Preservation Officer
Coushatta Tribe of Louisiana
P.O. Box 10
Elton, LA 70532

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Mr. Poncho,

As a follow-up to emails and files previously submitted to the Coushatta Tribe of Louisiana, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _ Wellfield Area.pdf

cc:

David Sickey, Tribal Chairman, Coushatta Tribe of Louisiana



September 30, 2025

David Sickey
Tribal Chairman
Coushatta Tribe of Louisiana
1940 C.C. Bel Road
Elton, LA 70532

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Mr. Sickey,

As a follow-up to emails and files previously submitted to the Coushatta Tribe of Louisiana, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

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If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _ Wellfield Area.pdf

cc:

Kristian Poncho, Tribal Historic Preservation Officer, Coshatta Tribe of Louisiana

From: [Witmer, Stephen M.](#)
To: ddotson@delawarenation-nsn.gov; "Katelyn Lucas"
Cc: [Strickland, Casey L.](#)
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Tuesday, May 27, 2025 4:03:00 PM
Attachments: [image001.png](#)
[SWA Lithium- Project Components Map.pdf](#)
[SWA Lithium - General Project Location Map.pdf](#)

Good afternoon, Ms. Dotson and Ms. Lucas. My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting you is because I and a colleague (Casey Strickland – copied) have been assigned as NEPA Compliance Officers for a pending NEPA action for a proposed DOE financial assistance award to SWA Lithium. SWA Lithium’s proposed project is titled “Commercial Domestic Production of Lithium Hydroxide from the Smackover Formation Brines in Southern Arkansas Using Direct Lithium Extraction Technology.”

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The reason I am contacting you now is to provide an advance notice of future communications under NEPA and Section 106 with your tribal nation regarding this proposed project. We are in the early stages of developing an Environmental Assessment for this proposed project, and field surveys (including a Phase One cultural resource survey encompassing the area of potential effect for the processing facility, well sites, and pipeline infrastructure) are in progress – with findings available in early June 2025. When those surveys and findings are completed, I will re-engage with you to provide those materials and work with your tribal nation moving forward as part of the NEPA Environmental Assessment and Section 106 review process.

For now I have attached high-level maps of the area of potential effect for reference, but we acknowledge that this is not a full submission for review at this time. The purpose for communicating here is to provide advance notice to your tribal nation regarding this pending action, and to establish points-of-contact and lines of communication for this proposed project and the NEPA process moving forward.

Please let us know if you happen to have any interim guidance or recommendations for this project, or protocols for communicating moving forward.

We’re looking forward to working with you and your tribal nation. Thanks!

Stephen M. Witmer

NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory

626 Cochran Mill Road, Pittsburgh, PA 15236

M/S 921-227

stephen.witmer@netl.doe.gov

Office: 412-386-7589



September 30, 2025

Deborah Dotson
President
Delaware Nation, Oklahoma
31064 State Highway 281
Building 100
Anadarko, OK 73005

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Ms. Dotson,

As a follow-up to emails and files previously submitted to the Delaware Nation - Oklahoma, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _ Wellfield Area.pdf

cc:

Katelyn Lucas, Tribal Historic Preservation Officer, Delaware Nation - Oklahoma

September 30, 2025

Katelyn Lucas
Tribal Historic Preservation Officer
Delaware Nation, Oklahoma
P.O. Box 825
Anadarko, OK 73005

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Ms. Lucas,

As a follow-up to emails and files previously submitted to the Delaware Nation - Oklahoma, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

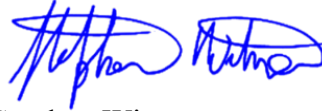
SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _ Wellfield Area.pdf

cc:

Deborah Dotson, President, Delaware Nation - Oklahoma

From: Witmer, Stephen M.
To: s106@osagenation-nsn.gov
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Thursday, June 12, 2025 3:36:00 PM
Attachments: [image001.png](#)
[SWA Lithium - General Project Location Map.pdf](#)
[SWA Lithium- Project Components Map.pdf](#)

Good afternoon! My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting you is because I have been assigned as NEPA Compliance Officer for a pending NEPA action for a proposed award to SWA Lithium. SWA Lithium’s proposed project is titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The reason I am contacting you now is to provide an advance notice of future consultation under Section 106 with your tribal nation regarding this proposed project. We are in the early stages of developing an Environmental Assessment for this proposed project, and field surveys (including a Phase One cultural resource survey encompassing the area of potential effect for the processing facility, well sites, and pipeline infrastructure) are in progress – with findings to be available in the June – July 2025 timeframe. When those surveys and findings are completed, I will re-engage with you to provide those materials and work with your tribal nation moving forward as part of the NEPA Environmental Assessment and Section 106 consultation process.

For now I have attached high-level maps of the area of potential effect for reference, but I acknowledge that this is not a full submission for review at this time. The purpose for communicating here is to provide advance notice to your tribal nation regarding this pending action, and to establish points-of-contact and lines of communication for this proposed project and the NEPA process moving forward.

Please let us know if you happen to have any interim guidance or recommendations for this project, or protocols for communicating moving forward. Unless you have a preference otherwise, future communications with your tribal nation will be done via both email and hard copy mail.

I'm looking forward to working with your tribal nation. Thanks!

Stephen M. Witmer

NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory

626 Cochran Mill Road, Pittsburgh, PA 15236

M/S 921-227

stephen.witmer@netl.doe.gov

Office: 412-386-7589





August 18, 2025

Andrea A. Hunter
Director and Tribal Historic Preservation Officer
Historic Preservation Office
Osage Nation
100 W. Main Street
Pawhuska, OK 74056

Subject: Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas” – Department of Energy (Lead Agency)

Dear Dr. Hunter,

As a follow-up to my initial email originally sent on 6/12/2025, a cultural resource survey report (which includes maps and photos) is now available for a portion of the area of potential effect for SWA Lithium’s proposed project now titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

This survey was completed to only encompass the area of the central processing facility. This survey covered 137 acres, and the location is at USPLSS - T17S, R24W, Sections 20 and 21 and the approximate UTM coordinates (near the west end of the central processing facility) are 15N 443726, 3680041. **An additional survey report is forthcoming that will cover the ancillary wellfield areas (encompassing well pads and pipeline infrastructure that will connect to the central processing facility).** When that survey report is available (estimated within the next two weeks), I will forward to you for review and comment. I will also provide a review letter from the Arkansas State Historic Preservation Office, when available

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy

National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project_CPF Area.pdf
2. SWA Lithium_Project Components Map.pdf
3. SWA Lithium_General Project Location Map.pdf
4. Osage_Initial NEPA and Section 106 Communication_6-12-2025.pdf

cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy
Technology Laboratory
Corey Carmack, Tribal Liaison, Department of Energy - Office of Manufacturing Energy
Supply Chains



September 30, 2025

Andrea A. Hunter
Director and Tribal Historic Preservation Officer
Historic Preservation Office
Osage Nation
100 W. Main Street
Pawhuska, OK 74056

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Dr. Hunter,

As a follow-up to emails and files previously submitted to the Osage Nation, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

This survey covered 308 acres, and the location is at USPLSS - T17S, R24W, Sections 13, 16, 21, 22, 23, 24 and T17S, R23W, Sections 7, 8, 11, 12, 14, 15, 16, 17, 18, 20, 21, 28, and 29. The approximate UTM coordinates (near the central portion of the wellfield) are 15N 452191, 3680640.

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

The Arkansas State Historic Preservation Office has not yet made a determination of effect on the wellfield portion of the project (their review of that portion of the project is underway), but their office has made a determination of “no historic properties affected” for the central processing facility portion of the project. Their letter with that determination is attached.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _Wellfield Area.pdf
2. Arkansas SHPO _Determination of Effect Letter _Cogburn.pdf



Osage Nation Historic Preservation Office

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Date: April 2, 2026

File: 2526-1913AR-3

National Energy Technology Laboratory
Stephen Witmer
626 Cochran Mill Road
Pittsburgh, PA 15236
stephen.witmer@netl.doe.gov

RE: DOE, SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D), Lafayette County, Arkansas

SENT VIA EMAIL

Dear Mr. Witmer,

The Osage Nation has received notification and accompanying information for the proposed project listed as DOE, SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D), Lafayette County, Arkansas. **The Osage Nation Historic Preservation Office requests a copy of the cultural resource survey report for review and comment.**

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

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. **The Osage Nation anticipates reviewing and commenting on the survey report for the proposed DOE, SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D), Lafayette County, Arkansas.**

Should you have any questions or need any additional information please feel free to contact Trever Murawski at trever.murawski@osagenation-nsn.gov. Thank you for consulting with the Osage Nation on this matter.

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

Trever Murawski
Archaeologist



Osage Nation Historic Preservation Office

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Date: April 16, 2026

File: 2526-1913AR-3

National Energy Technology Laboratory
Stephen Witmer
626 Cochran Mill Road
Pittsburgh, PA 15236
stephen.witmer@netl.doe.gov

RE: DOE, SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D), Lafayette County, Arkansas

SENT VIA EMAIL

Dear Mr. Witmer,

The Osage Nation Historic Preservation Office has evaluated your submission regarding the proposed DOE, SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D), Lafayette County, Arkansas and determined that the proposed project **most likely will not adversely affect any sacred properties and/or properties of cultural significance to the Osage Nation.** For direct effect, the finding of this NHPA Section 106 review is a determination of “No Properties” eligible or potentially eligible for the National Register of Historic Places.

In accordance with the National Historic Preservation Act, (NHPA) [54 U.S.C. § 300101 et seq.] 1966, undertakings subject to the review process are referred to in 54 U.S.C. § 302706 (a), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969). **The Osage Nation concurs that the Department of Energy fulfilled NHPA compliance by consulting with the Osage Nation Historic Preservation Office in regard to the proposed project referenced as DOE, SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D), Lafayette County, Arkansas.**

The Osage Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, the Native American Graves Protection and Repatriation Act, or Osage law. **If, however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and the Osage Nation Historic Preservation Office be contacted.**

Should you have any questions or need any additional information please feel free to contact Trever Murawski at trever.murawski@osagenation-nsn.gov. Thank you for consulting with the Osage Nation on this matter.

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

Trever Murawski
Archaeologist

From: Witmer, Stephen M.
To: bburtrum@quapawnation.com; wena.supernaw@quapawnation.com
Cc: Strickland, Casey L.
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Tuesday, May 27, 2025 4:07:00 PM
Attachments: [image001.png](#)
[SWA Lithium - General Project Location Map.pdf](#)
[SWA Lithium- Project Components Map.pdf](#)

Good afternoon. My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting you is because I and a colleague (Casey Strickland – copied) have been assigned as NEPA Compliance Officers for a pending NEPA action for a proposed DOE financial assistance award to SWA Lithium. SWA Lithium’s proposed project is titled “Commercial Domestic Production of Lithium Hydroxide from the Smackover Formation Brines in Southern Arkansas Using Direct Lithium Extraction Technology.”

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The reason I am contacting you now is to provide an advance notice of future communications under NEPA and Section 106 with your tribal nation regarding this proposed project. We are in the early stages of developing an Environmental Assessment for this proposed project, and field surveys (including a Phase One cultural resource survey encompassing the area of potential effect for the processing facility, well sites, and pipeline infrastructure) are in progress – with findings available in early June 2025. When those surveys and findings are completed, I will re-engage with you to provide those materials and work with your tribal nation moving forward as part of the NEPA Environmental Assessment and Section 106 review process.

For now I have attached high-level maps of the area of potential effect for reference, but we acknowledge that this is not a full submission for review at this time. The purpose for communicating here is to provide advance notice to your tribal nation regarding this pending action, and to establish points-of-contact and lines of communication for this proposed project and the NEPA process moving forward.

Please let us know if you happen to have any interim guidance or recommendations for this project, or protocols for communicating moving forward. Unless you have a preference otherwise, future communications with your tribal nation will be done via both email and hard copy mail.

We're looking forward to working with you and your tribal nation. Thanks!

Stephen M. Witmer

NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory

626 Cochran Mill Road, Pittsburgh, PA 15236

M/S 921-227

stephen.witmer@netl.doe.gov

Office: 412-386-7589





September 29, 2025

Billie Burtrum
Tribal Historic Preservation Officer/QNHPP Director
Quapaw Nation
P.O. Box 765
Quapaw, OK 74363

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Ms. Burtrum,

As a follow-up to my email originally sent on 8/18/2025, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project _Wellfield Area.pdf

cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory
Corey Carmack, Tribal Liaison, Department of Energy - Office of Manufacturing Energy Supply Chains
Wena Supernaw, Chair, Quapaw Nation

September 29, 2025

Wena Supernaw
Chair
Quapaw Nation
5681 South 630 Road
Quapaw, OK 74364

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Ms. Supernaw,

As a follow-up to my email originally sent on 8/18/2025, a cultural resource survey report is now available for the wellfield portion of the area of potential effect for SWA Lithium’s proposed project titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

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NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

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cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory
Corey Carmack, Tribal Liaison, Department of Energy - Office of Manufacturing Energy Supply Chains
Billie Burtrum, Tribal Historic Preservation Officer, Quapaw Nation

From: [Christina Sharp](#)
To: [Witmer, Stephen M.](#)
Cc: [section 106](#)
Subject: External Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas
Date: Wednesday, October 8, 2025 12:45:37 PM

Dear Mr. Witmer,

The Quapaw Nation Historic Preservation Program (QNHPP) has received and reviewed the cultural resources survey report provided and concurs that the Proposed Project Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas in Lafayette County, Arkansas is not likely to affect properties of cultural or sacred significance to the Quapaw Nation.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Quapaw Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, or the Native American Graves Protection and Repatriation Act. If, however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and that you contact the Quapaw Nation Historic Preservation Program (QNHPP).

Should you have any questions or need any additional information, please feel free to contact Christina Sharp at christina.sharp@quapawnation.com, please copy section106@quapawnation.com to ensure additional information requests are reviewed in a timely manner. Thank you for consulting with the Quapaw Nation on this matter.

Sincerely,

Christina Sharp

QHPP Compliance Specialist

Quapaw Nation

P.O. Box 765

Quapaw, OK 74363

918-238-3100 ext. 3100

****This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.****

November 21, 2025

Benjamin Barnes
Chief
Shawnee Tribe
29 South Highway 69a
Miami, OK 74354

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Mr. Barnes,

My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL). The reason I am contacting you is because I am a NEPA Compliance Officer for a proposed DOE award to SWA Lithium. SWA Lithium’s proposed project is titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, plus a six-acre access road. The ancillary 15-mile network of extraction/reinjection wells and pipelines to the central processing facility will require approximately 330 acres of land use and disturbance.

I have provided two cultural resource survey reports (one encompassing the central processing facility area of potential effect, and one encompassing the wellfield and pipeline area of potential effect), plus maps of the entire project area, for your review and comment.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources,

or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cultural Resources Survey Report for the SWA Lithium Project_CPF Area.pdf
2. Cultural Resources Survey Report for the SWA Lithium Project_Wellfield Area.pdf
3. SWA Lithium_General Project Location Map.pdf
4. SWA Lithium_Project Components Map.pdf

cc:

Tonya Tipton, Tribal Historic Preservation Officer, Shawnee Tribe



November 21, 2025

Tonya Tipton
Tribal Historic Preservation Officer
Shawnee Tribe
29 South Highway 69a
Miami, OK 74354

Subject: Department Of Energy (Funding Agency) - Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas,” Lafayette and Columbia County, Arkansas

Dear Ms. Tipton,

My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL). The reason I am contacting you is because I am a NEPA Compliance Officer for a proposed DOE award to SWA Lithium. SWA Lithium’s proposed project is titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, plus a six-acre access road. The ancillary 15-mile network of extraction/reinjection wells and pipelines to the central processing facility will require approximately 330 acres of land use and disturbance.

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or comments on the results of the cultural resource surveys, will be incorporated into the EA.

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Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

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3. SWA Lithium_General Project Location Map.pdf
4. SWA Lithium_Project Components Map.pdf

cc:

Benjamin Barnes, Chief, Shawnee Tribe

External RE: Draft Environmental Assessment for the SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D)

From Section106 <section106@shawnee-tribe.com>
Date Wed 3/11/2026 10:47 AM
To Witmer, Stephen M. <stephen.witmer@netl.doe.gov>

You don't often get email from section106@shawnee-tribe.com. [Learn why this is important](#).

The project is out of the Shawnee Tribe's area of interest.

If you have any questions, you may contact me via email at Section106@shawnee-tribe.com.

Thank you for giving us the opportunity to comment on this project.



Erin Paden

TRIBAL HISTORIC PRESERVATION
SPECIALIST

Office: (918) 542-2441, x140

Email: epaden@shawnee-tribe.com

29 S Hwy 69A
Miami, OK 74354

shawnee-tribe.com

From: Witmer, Stephen M. <Stephen.Witmer@NETL.DOE.GOV>
Sent: Wednesday, March 11, 2026 8:31 AM
To: Ben Barnes <Chief@shawnee-tribe.com>; Tonya Tipton <tonya@shawnee-tribe.com>
Cc: Strickland, Casey L. <Casey.Strickland@netl.doe.gov>
Subject: Draft Environmental Assessment for the SWA Lithium LLC – South West Arkansas Project (DOE/EA-2304D)

Some people who received this message don't often get email from stephen.witmer@netl.doe.gov. [Learn why this is important](#)

CAUTION: External email. Do not click links or open attachments unless you are confident the content is safe.

Dear Chief Barnes and Ms. Tipton:

The U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL) invites comments on the Draft Environmental Assessment (EA) for the SWA Lithium LLC – South West Arkansas Project. The Draft EA can also be found on DOE's NETL EA website at <https://netl.doe.gov/node/6939>.

Prior correspondence with your tribal nation referred to the project title as "Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas." Hard copies of the Draft EA are also being mailed to you.

The Draft EA has been prepared pursuant to the National Environmental Policy Act (NEPA), as amended (42 USC§ 4321) and DOE's implementing procedures for compliance with NEPA. DOE prepared the Draft EA to evaluate the potential environmental and social impacts of DOE's Proposed Action to provide cost-shared funding to SWA Lithium LLC for its Proposed SoLdh West Arkansas Project (SWA Project) to support the development of a lithium processing plant in the Smackover region of southwest Arkansas.

SWA Lithium LLC proposes to extract brine from the Smackover Formation via brine production wells at a rate of up to 200,000 barrels per day, extract lithium from the brine, convert it to a saleable battery-quality lithium carbonate product, and reinject the effluent brine back into the Smackover Formation for pressure maintenance via new brine injection wells. The Proposed SWA Project would produce a nominal 22,500 metric tons per annum of battery-quality lithium carbonate over a 20-year operating life. The components of the Proposed SWA Project would include a Central Processing Facility (CPF), along with a wellfield encompassing five well pads, brine production and injection wells, brine gathering and distribution pipelines, a sour gas disposal pipeline, power distribution lines, and access roads.

A notice of availability has been published in the Lafayette County Press, Magnolia Banner News, Magnolia Reporter, and Texarkana Gazette to announce the availability of the Draft EA for public review and comment. The 30-day public comment period is from March 11 through April 9, 2026. A hard copy

is also available for review at the Lafayette County Library, located at 219 E. 3rd Street, Lewisville, AR 71845.

Oral, written, or e-mailed comments will be accepted on the Draft EA through close of business on April 9, 2026. Comments received by the close of the comment period will be considered in preparing a Final EA for SWA Lithium LLC's Proposed Project. Comments received after the end of the comment period will be addressed to the extent practicable. Comments should be marked "SWA Lithium Draft EA Comments" and include name, address, and organization (if applicable). Individual names and addresses (including e-mail addresses) received as part of the public comment period normally are considered part of the public record. Persons wishing to withhold names, addresses, or other identifying information from the public record must state this request prominently at the beginning of their submitted comments. DOE will honor this request to the extent allowed by law. All submissions from organizations, businesses, and individuals will be included in the public record and open to inspection in their entirety.

Comments should be submitted to Stephen Witmer using the contact information below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

For additional information, please contact me using the contact information above.

Sincerely,

Stephen M. Witmer

NEPA Compliance Officer
Department of Energy – National Energy Technology Laboratory
626 Cochran Mill Road, Pittsburgh, PA 15236
M/S 921-227
stephen.witmer@netl.doe.gov
Office: 412-386-7589



****This message does not originate from a known Department of Energy email system. Use caution if this message contains attachments, links or requests for information.****



Sarah Huckabee Sanders
Governor
Shea Lewis
Secretary

September 11, 2025

Mr. Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236

RE: Lafayette County: General
Section 106 Review: DOE
Proposed Undertaking: SWA Lithium "Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas
Cultural Resources Survey Report: *Cultural Resources Survey Report for the SWA Lithium Central Processing Facility Project*
AHPP Tracking Number: 113835.01

Dear Mr. Witmer:


The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the Cultural Resources Survey Report (CRS) for the aforementioned undertaking in Sections 20, and 21, Township 17 South, Range 24 West approximately fifteen miles west of Magnolia in Lafayette County, Arkansas. The project proposes to design, construct, and operate a lithium extraction and processing facility along with a network of extraction and reinjection wells within the Smackover Formation. This cultural resources survey covers the area of potential effect (APE) associated with the central processing facility that will extract lithium chloride from brine using direct lithium extraction technology and will convert it to a purified, battery quality lithium carbonate product for sale to the electric vehicle market. The APE for the central processing facility encompasses approximately 137 acres.

A records check revealed no previously recorded archeological sites and no AHPP historic structures in or near the APE. One cultural resources survey was conducted near the APE but did not extend into the APE. The CRS consisted of an intensive pedestrian survey with staggered shovel tests. Standing water and timber deposits prohibited shovel testing every 20 meters and a total of 329 shovel tests were excavated at an estimated 30-meter interval. All shovel tests along with the pedestrian survey were negative for cultural materials.

Based on the information provided, the AHPP concurs with the finding of **no historic properties affected pursuant to 36 CFR § 800.4(d)(1)** for the proposed undertaking. In the event of a post-review discovery of historic properties within the area of potential effects, please contact the AHPP and other consulting parties in accordance with 36 CFR § 800.13(b)(3).

Thank you for the opportunity to review this CRS. If you have any questions, please contact Jessica Cogburn at jessica.cogburn@arkansas.gov.

Sincerely,
Jessica
Cogburn

 Digitally signed by Jessica
Cogburn
Date: 2025.09.11
09:42:06 -05'00'

for
Scott Kaufman
State Historic Preservation Officer and Director, AHPP

Cc: Dr. Melissa Zabecki, State Archeologist, Arkansas Archeological Survey



Sarah Huckabee Sanders
Governor
Shea Lewis
Secretary

November 12, 2025

Stephen Witmer
NEPA Compliance Officer
Department of Energy – National Energy Technology Laboratory
626 Cochran Mill Road
Pittsburgh, PA 15236

RE: Lafayette County: General
Section 106 Review: DOE
Proposed Undertaking: Southwest Arkansas Pipeline and Will Pad Project
Cultural Resources Report: *Cultural Resources Survey Report for the Southwest Arkansas Pipeline and Well Pad Project*
AHPP Project Number: 113835.02

Dear Mr. Witmer:

The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the submission for the above-referenced project in Sections 21-24, Township 17 South, Range 24 West and Sections 11, 12, 14, 15, and 19-21, Township 12 South, Range 13 West in Lafayette County, Arkansas. The proposed project entails the construction of an approximately 14-mile pipeline and five 10-acre well pads. Switchgrass Consulting, Inc. conducted a Phase I cultural resources survey to determine potential impacts, if any, to the area of potential effect (APE).

A total of 1,284 shovel tests were excavated, twelve of which were positive for cultural resources. Six isolated finds were recorded along with the recording of four new archeological sites, 3LA0358, 3LA0359, 3LA0360, and 3LA0361. The AHPP concurs that all four sites are not eligible for listing on the National Register of Historic Places (NRHP).

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

Tribes that have expressed an interest in the area include the Caddo Nation, the Delaware Nation, the Osage Nation, the Quapaw Nation, the Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. We recommend consultation in accordance with 36 CFR § 800.2(c)(2).

We appreciate the opportunity to review this undertaking. If you have any questions, please contact Kathryn Bryles at (501) 324-9784 or Kathryn.Bryles@arkansas.gov. Please refer to the AHPP Tracking Number above in any correspondence.

Sincerely,

Kathryn
Bryles, PhD

Digitally signed by
Kathryn Bryles, PhD
Date: 2025.11.12
13:39:38 -06'00'

for

Scott Kaufman
AHPP Director and State Historic Preservation Officer

cc: Dr. Melissa Zabecki, Arkansas Archeological Survey

From: Witmer, Stephen M.
To: section106@arkansas.gov
Cc: Strickland, Casey L.
Subject: Initial communication for pending NEPA/Section 106 action - SWA Lithium Environmental Assessment
Date: Tuesday, May 27, 2025 2:23:00 PM
Attachments: [image001.png](#)
[SWA Lithium - General Project Location Map.pdf](#)
[SWA Lithium- Project Components Map.pdf](#)

Good afternoon! My name is Stephen Witmer, and I am a NEPA Compliance Officer for the U.S. Department of Energy (DOE) – National Energy Technology Laboratory (NETL). The reason I am contacting your office is because myself and a colleague (Casey Strickland – copied) have been assigned as NEPA Compliance Officers for a pending NEPA action for a proposed award to SWA Lithium. SWA Lithium’s proposed project is titled “Commercial Domestic Production of Lithium Hydroxide from the Smackover Formation Brines in Southern Arkansas Using Direct Lithium Extraction Technology.”

SWA Lithium is proposing to design, construct and operate the South West Arkansas Lithium Project located 15 miles west of the City of Magnolia in southwestern Arkansas. The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation.

The reason I am contacting you now is to provide an advance notice of future consultation under Section 106 with your office regarding this proposed project. We are in the early stages of developing an Environmental Assessment for this proposed project, and field surveys (including a Phase One cultural resource survey encompassing the area of potential effect for the processing facility, well sites, and pipeline infrastructure) are in progress – with findings to be available in early June 2025. When those surveys and findings are completed, I will re-engage with your office to provide those materials and work with your office moving forward as part of the Environmental Assessment and Section 106 consultation process.

For now I have attached high-level maps of the area of potential effect for reference, but we understand that this is not a full submission for review at this time. The purpose for communicating here is to provide advance notice to your office regarding this pending action, and to establish points-of-contact and lines of communication for this project and NEPA process moving forward.

Please let us know if you happen to have any interim guidance or recommendations for this project or protocols with your office moving forward. Thanks!

Stephen M. Witmer
NEPA Compliance Officer

Department of Energy – National Energy Technology Laboratory
626 Cochran Mill Road, Pittsburgh, PA 15236
M/S 921-227
stephen.witmer@netl.doe.gov
Office: 412-386-7589





August 19, 2025

Catherine Barrier
Section 106 Planning Specialist/Federal Grant Manager
Arkansas Historic Preservation Program
Division of Arkansas Heritage
1100 North Street
Little Rock, AR 72201

Subject: Cultural Resource Survey Reports, NEPA, and Section 106 Compliance for the Proposed SWA Lithium “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas” – Department of Energy (Lead Agency)

Dear Ms. Barrier,

As a follow-up to my initial email originally sent on 5/27/2025, a cultural resource survey report (which includes maps and photos) is now available for a portion of the area of potential effect for SWA Lithium’s proposed project now titled “Domestic Production of Lithium Carbonate from the Smackover Formation Brines in Southern Arkansas.”

SWA Lithium is proposing to design, construct and operate the project located 15 miles west of the City of Magnolia in southwestern Arkansas (Lafayette and Columbia counties). The SWA Project is comprised of i) a central processing facility that will extract lithium chloride from brine using proprietary direct lithium extraction (DLE) technology and convert it to a purified, battery quality (>99.5%) lithium carbonate product for sale to the electric vehicle market, and ii) a network of extraction and reinjection wells within a unitized mineral lease area of approximately 22,000 gross acres to supply brine from the Smackover Formation to the central processing facility and then reinject the barren tail brine back into the Smackover Formation. The central processing facility and its supporting infrastructure will encompass approximately 80 areas of a 118-acre site, and the ancillary network of extraction and reinjection wells, and pipelines to the central processing facility will require approximately 295 acres.

This survey was completed to only encompass the area of the central processing facility. This survey covered 137 acres, and the location is at USPLSS - T17S, R24W, Sections 20 and 21 and the approximate UTM coordinates (near the west end of the central processing facility) are 15N 443726, 3680041. The area of potential effect (APE) of the central processing facility is located in a previously disturbed setting from prior timber harvesting, and is presently covered in early secessional vegetation. The disturbances related to the central processing facility include construction of the central processing facility, access roads, and parking facilities. **An additional survey report is forthcoming that will cover the ancillary wellfield areas (encompassing well pads and pipeline infrastructure that will connect to the central processing facility).** When

that survey report is available (estimated within the next two weeks), I will forward to you (including details of the current and proposed disturbances to the wellfield APE) for review and comment.

DOE is also communicating with Tribal Historic Preservation Officers and tribal leaders for the Apache Tribe of Oklahoma, Caddo Nation of Oklahoma, Coshatta Tribe of Louisiana, Delaware Nation of Oklahoma, Osage Nation, and Quapaw Nation regarding this project and the Section 106/NEPA process.

In terms of the timeline for the Environmental Assessment (EA) process, it is estimated that the Draft Environmental Assessment will be available in the next month or two. This will also be provided for your review and comment when available, and any interim comments that you may have regarding potential impacts to cultural or historic resources, or comments on the results of the cultural resource surveys, will be incorporated into the EA.

If you have any questions or comments concerning this proposed project, please contact me at the following address, phone, or email below:

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
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Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Sincerely,



Stephen Witmer
NEPA Compliance Officer

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2. SWA Lithium_Project Components Map.pdf
3. SWA Lithium_General Project Location Map.pdf

cc:

Casey Strickland, NEPA Compliance Officer, Department of Energy - National Energy Technology Laboratory
Corey Carmack, Tribal Liaison, Department of Energy - Office of Manufacturing Energy Supply Chains

From: [Witmer, Stephen M.](#)
To: [Jessica Cogburn](#)
Subject: RE: External AHPP 113835.01_DOE_SWA Lithium Extraction Facility_Lafayette County_Arkansas
Date: Friday, September 26, 2025 3:03:00 PM
Attachments: [image001.png](#)
[SHPO_P02-03-TRI-EN-REP-000-011 - Wellfield Cultural Resources Report.zip](#)
[image002.png](#)

Good afternoon, Jessica. Thank you for this letter. I wanted to let you know that the cultural resources survey report that encompasses the wellfield portion of the project (referenced from my original submission) is available for review. Would your office be able to review this report and issue recommendations/findings for the wellfield portion, or revise the initial letter to encompass findings for both the CPF and wellfield in a single assessment?

The report itself may be too large to send via email, so if this is the case, do you have a different way to submit this electronically? I can also arrange to have a hard copy mailed to your office, if need be.

Thanks!

Stephen M. Witmer

NEPA Compliance Officer
Department of Energy – National Energy Technology Laboratory
626 Cochran Mill Road, Pittsburgh, PA 15236
M/S 921-227
stephen.witmer@netl.doe.gov
Office: 412-386-7589



From: Jessica Cogburn <Jessica.Cogburn@arkansas.gov>
Sent: Thursday, September 11, 2025 10:49 AM
To: Witmer, Stephen M. <Stephen.Witmer@NETL.DOE.GOV>
Subject: External AHPP 113835.01_DOE_SWA Lithium Extraction Facility_Lafayette County_Arkansas

You don't often get email from jessica.cogburn@arkansas.gov. [Learn why this is important](#)

Good morning,

Attached is the AHPP letter regarding the CRS for the proposed SWA Lithium Extraction Facility in Lafayette County, Arkansas. If you have any questions, please feel free to contact me.

Thank you.

JESSICA H. COGBURN

Archeologist / Section 106 Program Manager
Arkansas Historic Preservation Program

Division of Arkansas Heritage

1100 North Street

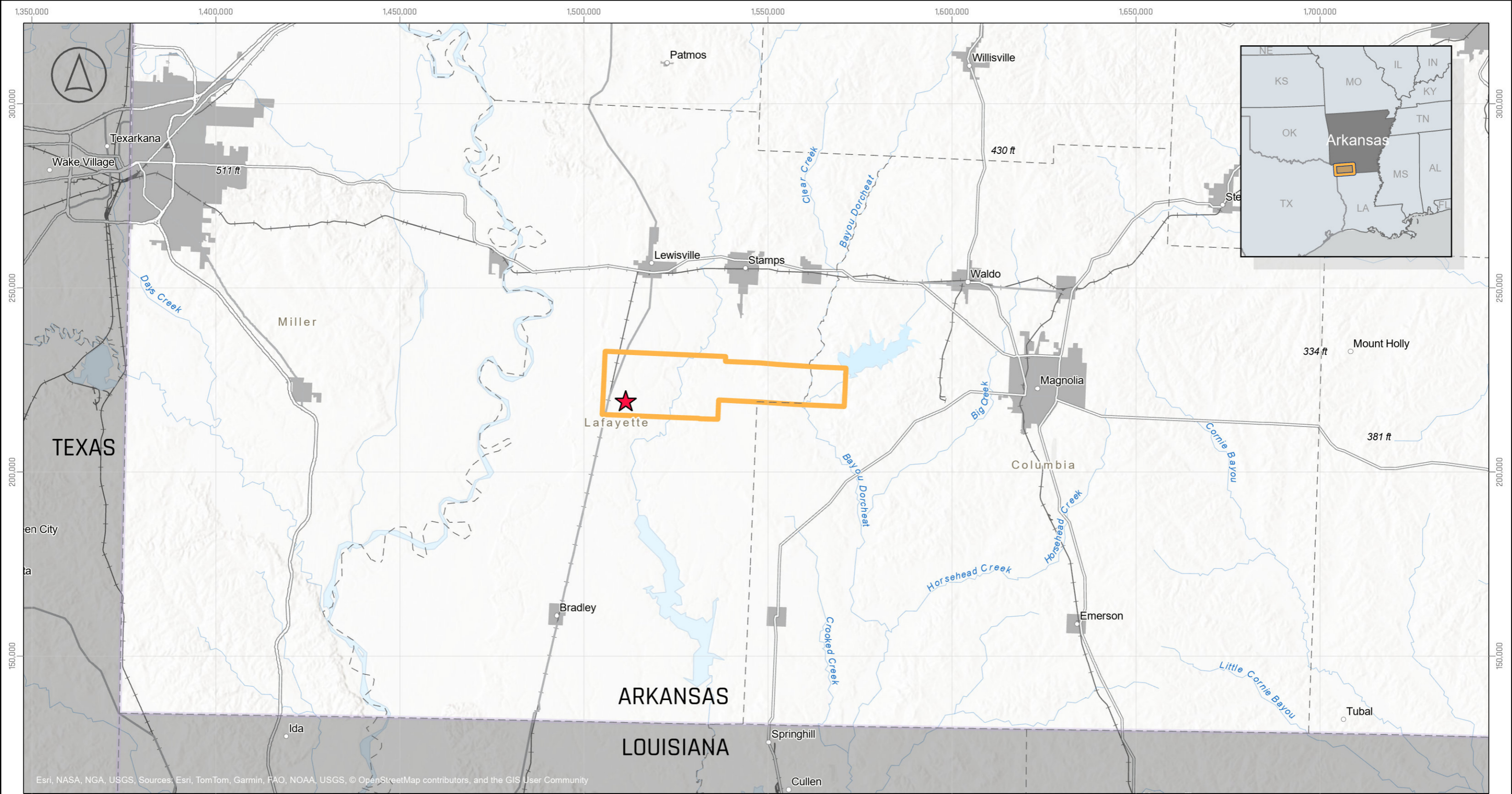
Little Rock, AR 72201

jessica.cogburn@arkansas.gov

p: 501.324.9357



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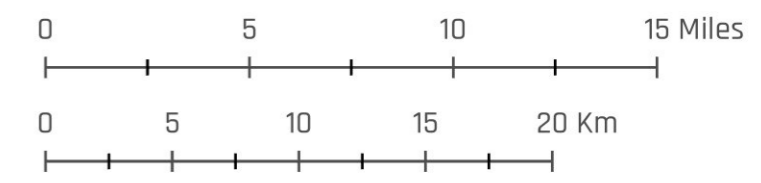


Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

- Legend**
- State Highway
 - Road
 - Rail
 - Central Processing Facility
 - Phase 1 Mineral Rights Boundary

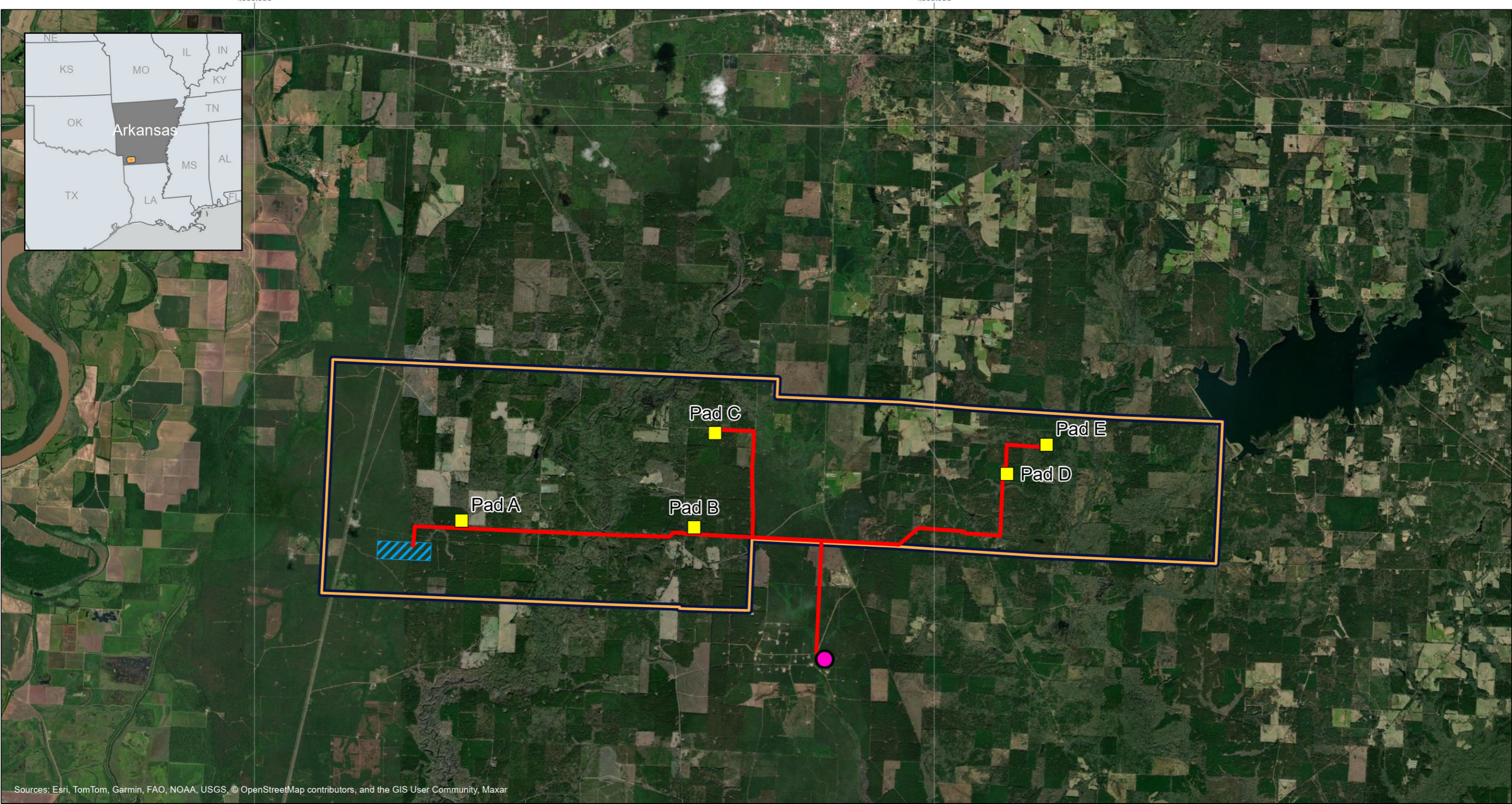


**South West Arkansas Project,
U.S.A.
April 2, 2025**



NAD 1927 StatePlane Arkansas South FIPS 0302

All locations are preliminary and are subject to change



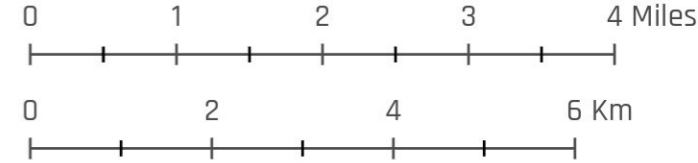
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Legend

- Well Pad Locations
- Phase 1 Mineral Rights Boundary
- Central Processing Facility
- Third Party Sour Gas Facility
- Right of Ways for Brine/Sour Gas Pipelines and Electrical Distribution Lines



**South West Arkansas Project,
U.S.A.
April 2, 2025**



NAD 1927 StatePlane Arkansas South FIPS 0302

All locations are preliminary and are subject to change.

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

From: [Witmer, Stephen M.](mailto:Stephen.M.Witmer@netl.doe.gov)
To: stacie.wassell@arkansas.gov
Subject: Introduction - Department of Energy NEPA Compliance Officer for Proposed Standard Lithium (SWA Lithium) Award
Date: Friday, August 29, 2025 1:35:00 PM
Attachments: [image001.png](#)

Good afternoon, Ms. Wassell. My name is Stephen Witmer, and I am a National Environmental Policy Act (NEPA) Compliance Officer for the Department of Energy (DOE) – National Energy Technology Laboratory. The reason I’m reaching out to you is because I have been assigned as the NEPA Compliance Officer for a proposed DOE grant to Standard Lithium (SWA Lithium). You may already be familiar with this proposed project (I believe representatives from SWA Lithium, including Jason Tiekler and Alex Ogaard-Stephens have had initial communications with the Arkansas DEQ contacts regarding this project), but in brief, the proposed project would be to set up a brine extraction and processing facility in Lafayette and Columbia Counties, AK. Brine would be extracted from the Smackover Formation, lithium would be processed from this brine, and the processed water would be re-injected into the Smackover Formation.

Since this project would involve federal (DOE) funding, an environmental review under NEPA has been initiated, and an Environmental Assessment is the level of review that has been initiated.

The reason I’m reaching out is to see if you (or someone else in your Department) would be amenable to fielding some questions from me that would inform some of the content of this EA. In particular, I’d be curious about learning more about water permitting points of contact/processes/requirements/mitigation requirements/etc. administered by the Arkansas DEQ for this particular project, and broader state-wide requirements for surface and groundwater utilization. This is meant to be an informal “introductory” email, but if you’re amenable to providing some insight into Arkansas DEQ’s role with this project, I can arrange to have follow-up conversations sometime after Labor Day.

If you have any interim questions or comments for me, I can be reached using the contact information in my signature block. Thank you very much!

Stephen M. Witmer

NEPA Compliance Officer
Department of Energy – National Energy Technology Laboratory
626 Cochran Mill Road, Pittsburgh, PA 15236
M/S 921-227
stephen.witmer@netl.doe.gov
Office: 412-386-7589





DIVISION OF ENVIRONMENTAL QUALITY

Sarah Huckabee Sanders
GOVERNOR

Shane E. Khoury
SECRETARY

September 24, 2025

Stephen Witmer
NEPA Compliance Officer
Department of Energy – National Energy Technology Laboratory
626 Cochran Mill Road
Pittsburgh, PA 15236
Via email: Stephen.witmer@netl.doe.gov

Dear Mr. Witmer,

The Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ), has reviewed the project description for Standard Lithium Ltd.'s brine extraction project in Columbia and Lafayette Counties. Based on the information provided, please note the following potential permitting and compliance requirements:

Office of Water Quality (OWQ)

- Brine Storage Tanks:
 - A permit is required for the installation and operation of brine storage tanks. For additional information, please contact Terry Liu, OWQ Engineer Supervisor at terry.liu@arkansas.gov or 501.682.0653.
- Wastewater Discharge:
 - If the facility intends to discharge sanitary wastewater, non-contact cooling water, cooling tower or boiler blowdown, reverse osmosis (RO) reject, or other non-process wastewater, an individual National Pollutant Discharge Elimination System (NPDES) permit will be required.
 - Facilities may also commingle industrial stormwater with non-process wastewater under the terms of an individual NPDES permit. For additional information, please contact Loretta Carstens, OWQ Engineer at loretta.carstens@arkansas.gov or 501.682.0612.
- General Permit Requirements:
 - Construction Stormwater General Permit (ARR150000): Required for projects disturbing one (1) acre or more of land. Coverage must be obtained before construction begins. Details are available on DEQ's [website](#).
 - Hydrostatic Testing General Permit (ARG670000): Required if the project involves the construction or relocation of pipelines or vessels. All state and

ARKANSAS DEPARTMENT OF ENERGY AND ENVIRONMENT

ee.arkansas.gov | 5301 Northshore Drive, North Little Rock, AR 72118 | 501.682.0744

federal requirements must be met, and wastewater discharges must be authorized before activities take place. For additional information, please contact Katherine McWilliams, OWQ Engineer Supervisor at katherine.mcwilliams@arkansas.gov or 501.682.0651.

Office of Air Quality (OAQ)

- Arkansas Lithium Corporation – Standard Lithium Ltd. currently holds Air Permit No. 2449-A. Please contact Elliott Marshall, OAQ Permit Engineer, at elliott.marshall@arkansas.gov or 501.682.0085 to confirm whether the proposed activities require a new air permit or modification. Additional information is available on DEQ's [website](#).
- All facilities, as defined by the Asbestos National Emission Standards for Hazardous Air Pollutants, scheduled for demolition or renovation, must be inspected for asbestos before beginning the project. Depending on the work to be conducted, Notices of Intent (NOI) for demolition/renovation must be submitted with applicable fees. If asbestos is found, dependent on the type and its condition, it may have to be removed. Information on the Arkansas Pollution Control and Ecology Commission Asbestos Abatement Rule No. 21, now codified as 20 CAR pt. 860, can be found on the DEQ's [website](#). You may also call the Office of Air Quality, Asbestos Program at 501.682.0718 for more information or assistance.

Office of Land Resources (OLR)

- All waste resulting from the proposed project should be properly disposed of, or if the material removed does not meet the definition of beneficial fill, and has been approved by the Division, the material is used as beneficial fill. All waste resulting from the proposed project should be properly classified as hazardous waste or non-hazardous waste. Any hazardous waste resulting from this project must be sent to a permitted hazardous waste treatment, storage, or disposal facility. For additional information, please contact Charles Hurt, OLR Managing Engineer at Charles.hurt@arkansas.gov or 501.682.0838.

In addition to potential DEQ requirements, we recommend contacting the [Arkansas Oil and Gas Commission](#), and the [Arkansas Department of Agriculture](#). The Arkansas Oil and Gas Commission regulates the extraction of brine, and the Arkansas Department of Agriculture regulates water utilization (surface and groundwater).

If you have any questions or need clarification, please contact me at lucy.cross@arkansas.gov or 501.682.0788.

Sincerely,

ARKANSAS DEPARTMENT OF ENERGY AND ENVIRONMENT

ee.arkansas.gov | 5301 Northshore Drive, North Little Rock, AR 72118 | 501.682.0744

A handwritten signature in black ink that reads "Lucy Cross". The signature is written in a cursive style with a large, sweeping initial "L" and "C".

Lucy Cross
Director of Enterprise Services, Division of Environmental Quality
5301 Northshore Drive, North Little Rock, AR 72118

LC: vdk

U.S. ENVIRONMENTAL PROTECTION AGENCY



REGION 6

DALLAS, TX 75270

April 8, 2026

Stephen Witmer
NEPA Compliance Officer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
Pittsburgh, Pennsylvania 15236
stephen.witmer@netl.doe.gov

Re: South West Arkansas Lithium Processing Plant

Dear Mr. Witmer:

The U.S. Environmental Protection Agency has reviewed the U.S. Department of Energy National Energy Technology Laboratory Draft Environmental Assessment prepared to evaluate the environmental effects of providing cost-shared funding support for development of the South West Arkansas lithium processing plant. The plant and its components will be in Lafayette and Columbia Counties, Arkansas. EPA's review is provided pursuant to the National Environmental Policy Act and our authority under Section 309 of the Clean Air Act.

SWA Lithium is a joint venture between Standard Lithium Ltd. and Equinor, operating under the joint venture brand of Smackover Lithium. SWA Lithium proposes to extract brine from the Smackover Formation via brine production wells at a rate of up to 200,000 barrels per day, extract lithium from the brine, convert it to a saleable battery-quality lithium carbonate product, and reinject the effluent brine into the Smackover Formation. EPA has no comment to offer.

EPA appreciates the opportunity to provide comments and looks forward to continued participation in the NEPA process. If you have any questions, please contact me at (214) 665-8565, or contact Michael Jansky, Lead Reviewer for this project, at (214) 665-7451 or jansky.michael@epa.gov.

Sincerely,

Robert Houston
Staff Director
Office of the Regional Administrator

APPENDIX C LIST OF PREPARERS

- Department of Energy
 - Stephen Witmer, NEPA Compliance Officer—U.S. Department of Energy National Energy Technology Laboratory, B.S. Environmental Science; 15+ years of experience
 - Casey Strickland, NEPA Compliance Officer—U.S. Department of Energy National Energy Technology Laboratory, M.S. Geosciences; 20+ years of experience
- SWA Lithium LLC
 - Jason Tielker, Vice President Project Delivery—B.A.Sc. Mechanical Engineering; Project Development; 25+ years of experience
 - Angus Remfry, Project Director South West Arkansas Project—B.Eng Chemical Engineering, B.Sc Physics; Project Development; 25+ years of experience
 - Robby Trahan, Permitting Lead South West Arkansas Project—Oil & Gas Well Permitting & Regulatory Compliance in Louisiana, Texas, & Ohio; 25 years of experience
 - Stephen Ross, Vice President Resource Development—B. Sc. & M.Sc. Earth Science; Geology and Hydrogeology; 25+ years of experience
 - Ken Kuiper, GIS Director—HBA Geography; GIS Data Science, Mineral Exploration and Geology; 25+ years of experience
 - Alex Ogaard-Stephens, Interface Manager South West Arkansas Project—B.Eng Chemical Engineering, Project & Interface Management; 10 years of experience
- Environmental Resources Management, Inc.
 - Julia Tims, Partner-in-Charge—B.S. Wildlife Conservation, M.S. Natural Resources Management/Ecology; Surface Water, Wetlands, and Floodplains, Vegetation and Wildlife, Protected Species; 25+ years of experience
 - Jacquie Payette, Project Manager—M.A. Archaeology and Physical Anthropology, M.A. English; Cultural Resources; 25+ years of experience
 - Annika Liger—B.A. Anthropology, B.A. History, M.A. History of Welfare and Medicine in Society; Socioeconomics, Cultural Resources, Cumulative Impacts; 5 years of experience
 - Ben Sussman—B.S. Science, Technology, and Society, M.A. City and Regional Planning; Transportation and Traffic, Aesthetics and Visual Setting, Land Use; 25+ years of experience
 - Brooke Fox—B.S. Environmental Science, M.S. Natural Resources Conservation; Transportation and Traffic; 5 years of experience
 - Casey Brotman—B.S. Environmental Resources Management; GIS; 4 years of experience
 - Christine Ferry—B.S. Chemistry, M.S. Chemistry; Regulated Waste, Utilities and Energy Use, Air Quality; 6 years of experience
 - Danna Allen—B.A. Historic Preservation, M.A. Historic Preservation; Cultural Resources, Cumulative Impacts; 18 years of experience

- David Murtha—A.S. Biology and Chemistry, B.S. Environmental Sciences; Air Quality, Regulated Waste, Public and Occupational Health and Safety, Air Quality, Permitting; 25+ years of experience
- Jason Willey—B.S. Biology, M.S. Environmental Science and Policy; Groundwater, Soils, Surface Water; 25+ years of experience
- Jeremy Bittlebrun—B.S. Environmental Health and Safety, M.S. Disaster Management; Public and Occupational Health and Safety; 4 years of experience
- Kelly Brezovar—B.S. Biology; Permitting; 13 years of experience
- Kristina Garcia—B.S. Hydrogeology and Environmental Geology, M.A. Geology and Geochemistry; Surface Water and Groundwater; 25+ years of experience
- Laura Sondag-Braun—B.S. Biology and Environmental Sciences, M.S. Ecology; Land Use, Geology, Topography, and Soils; 10 years of experience
- MacKenzie Carroll—B.A. History, M.A. Historic Preservation; Aesthetics and Visual Setting; 5 years of experience
- Matt Erbe—B.A. Natural Sciences: Geology, M.A. Hydrogeology; Geology, Groundwater, Soils; 20+ years of experience
- Renee Hoyos—B.A. Theater Arts; M.A.M Agriculture and Management, M.S. Avian Sciences; Socioeconomics; 20+ years of experience
- Terry Hair—B.S. Geology; Geology, Topography, and Soils; 25+ years of experience
- Tony Agresti—B.S. Meteorology; Noise and Vibration; 25+ years of experience

APPENDIX D REFERENCE LIST

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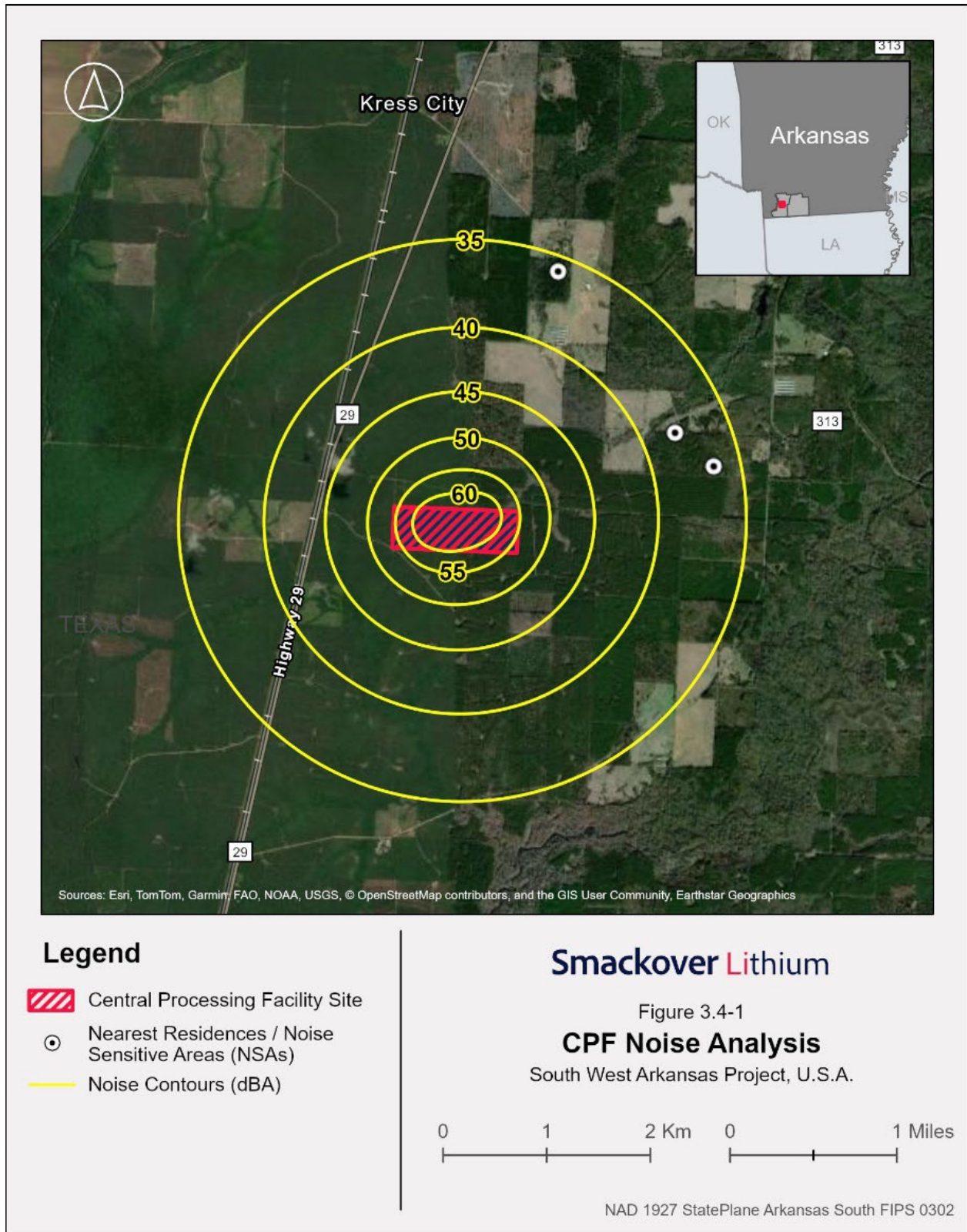
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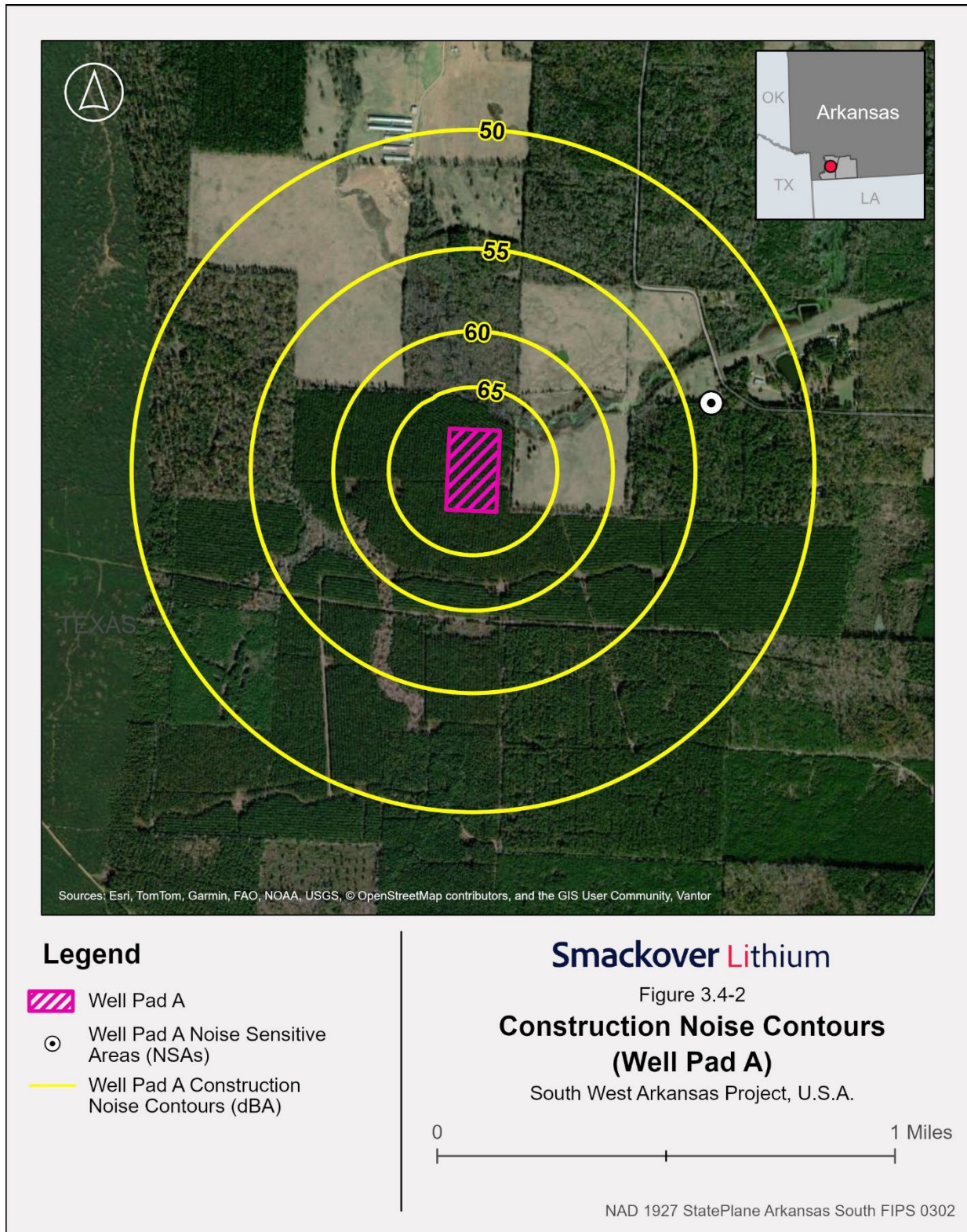
APPENDIX E FIGURES

FIGURE 3.4-1: CENTRAL PROCESSING FACILITY NOISE ANALYSIS



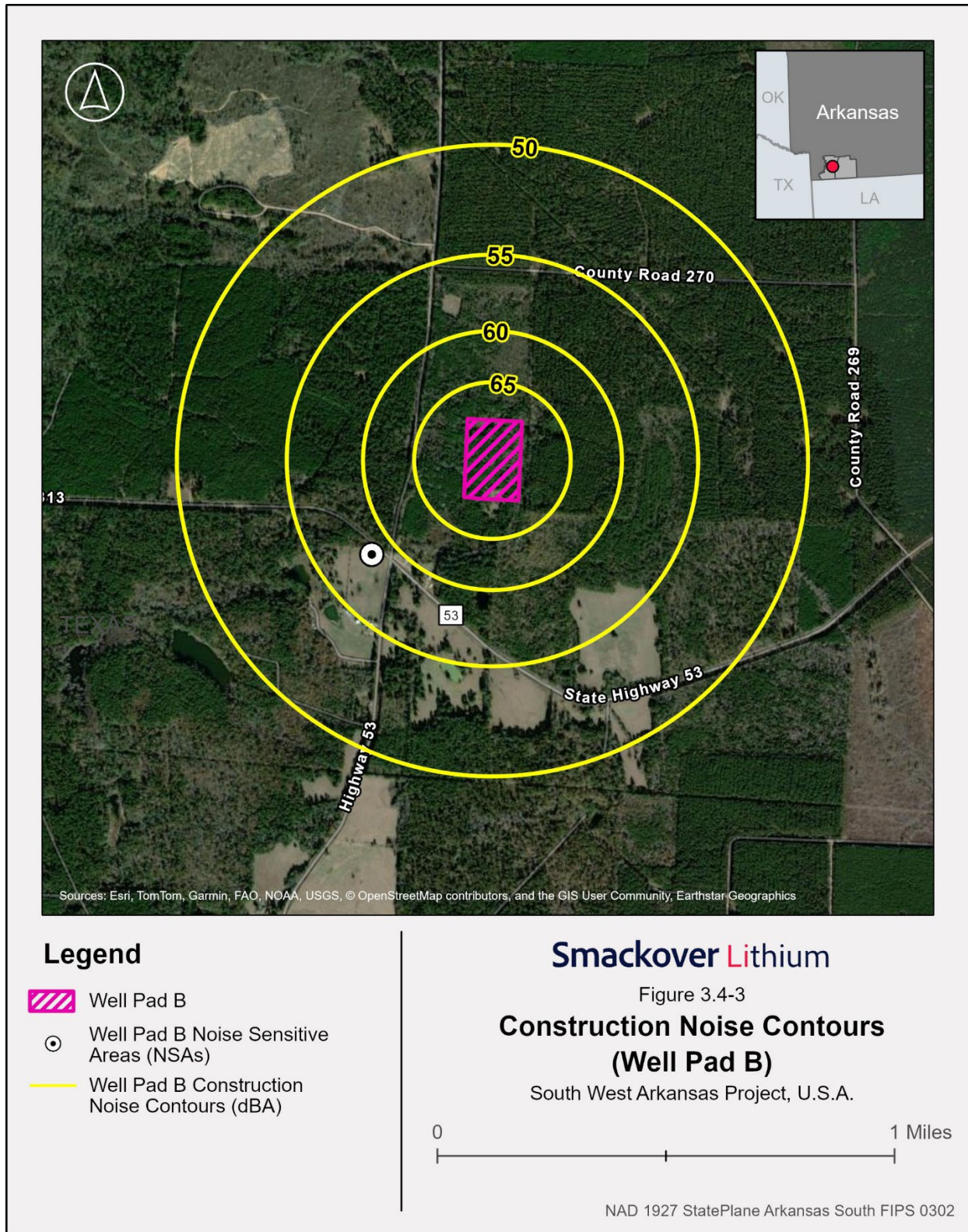
dB(A) = A-weighted decibels; NSA = Noise Sensitive Area

FIGURE 3.4-2: CONSTRUCTION NOISE CONTOURS (WELL PAD A)



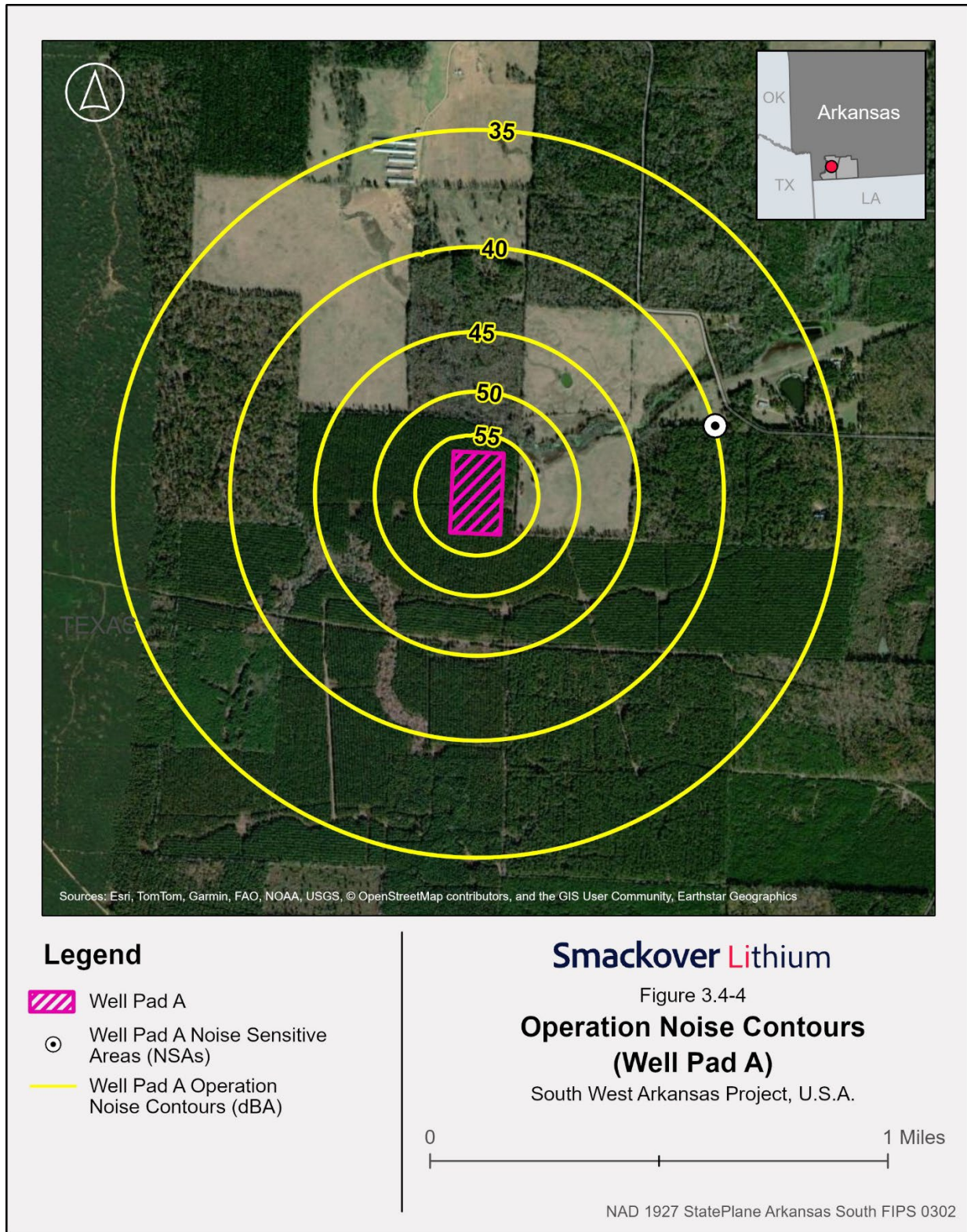
dBA = A-weighted decibels; NSA = Noise Sensitive Area

FIGURE 3.4-3: CONSTRUCTION NOISE CONTOURS (WELL PAD B)



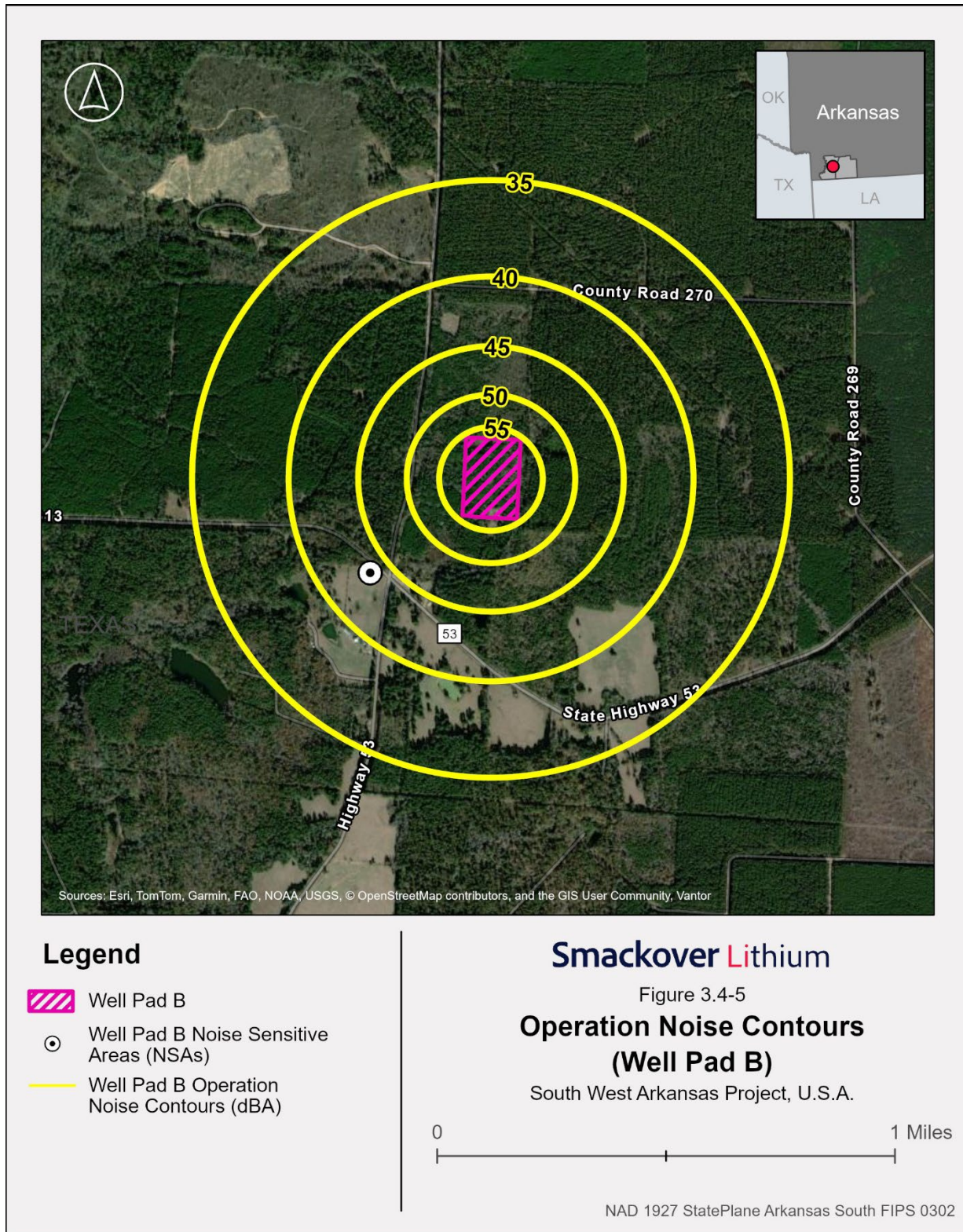
dBA = A-weighted decibels; NSA = Noise Sensitive Area

FIGURE 3.4-4: OPERATION NOISE CONTOURS (WELL PAD A)



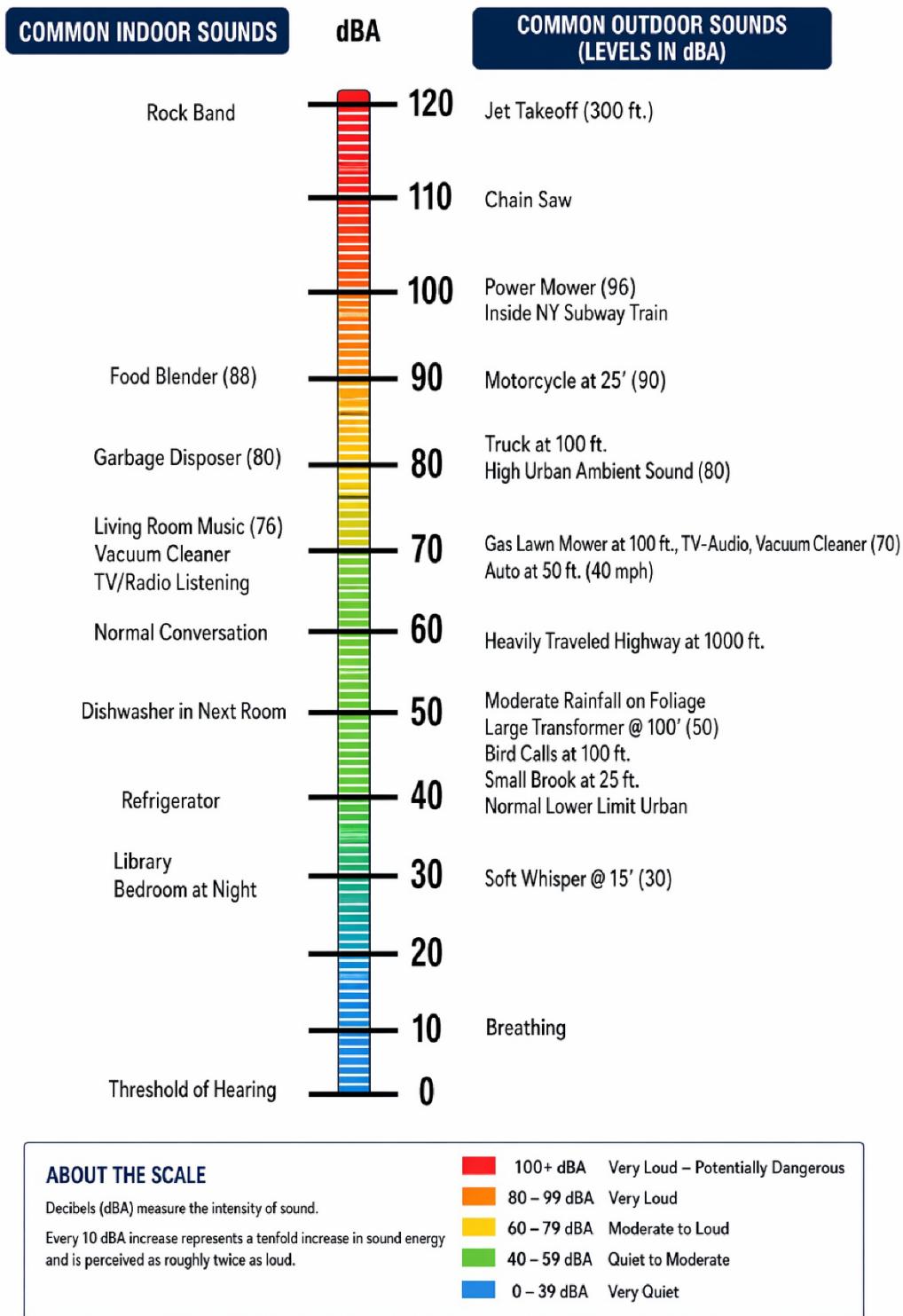
dBA = A-weighted decibels; NSA = Noise Sensitive Area

FIGURE 3.4-5: OPERATION NOISE CONTOURS (WELL PAD B)



dBA = A-weighted decibels; NSA = Noise Sensitive Area

FIGURE 3.4-6: COMMON INDOOR AND OUTDOOR NOISE LEVELS

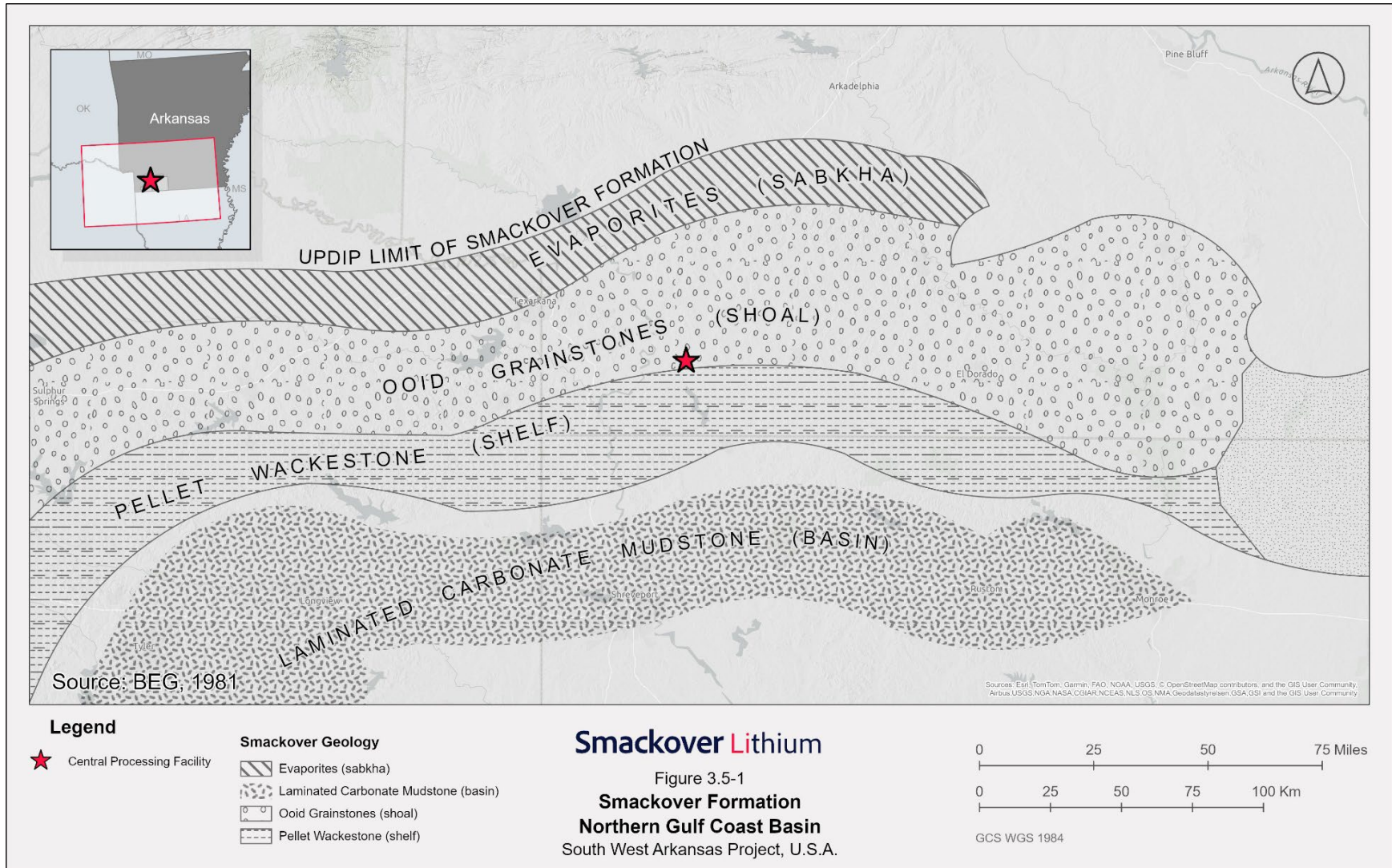


Sources: Fancher and Reissad, 1970; Smoakie, et al, 1981; and EPA, 1974.

Smackover Lithium

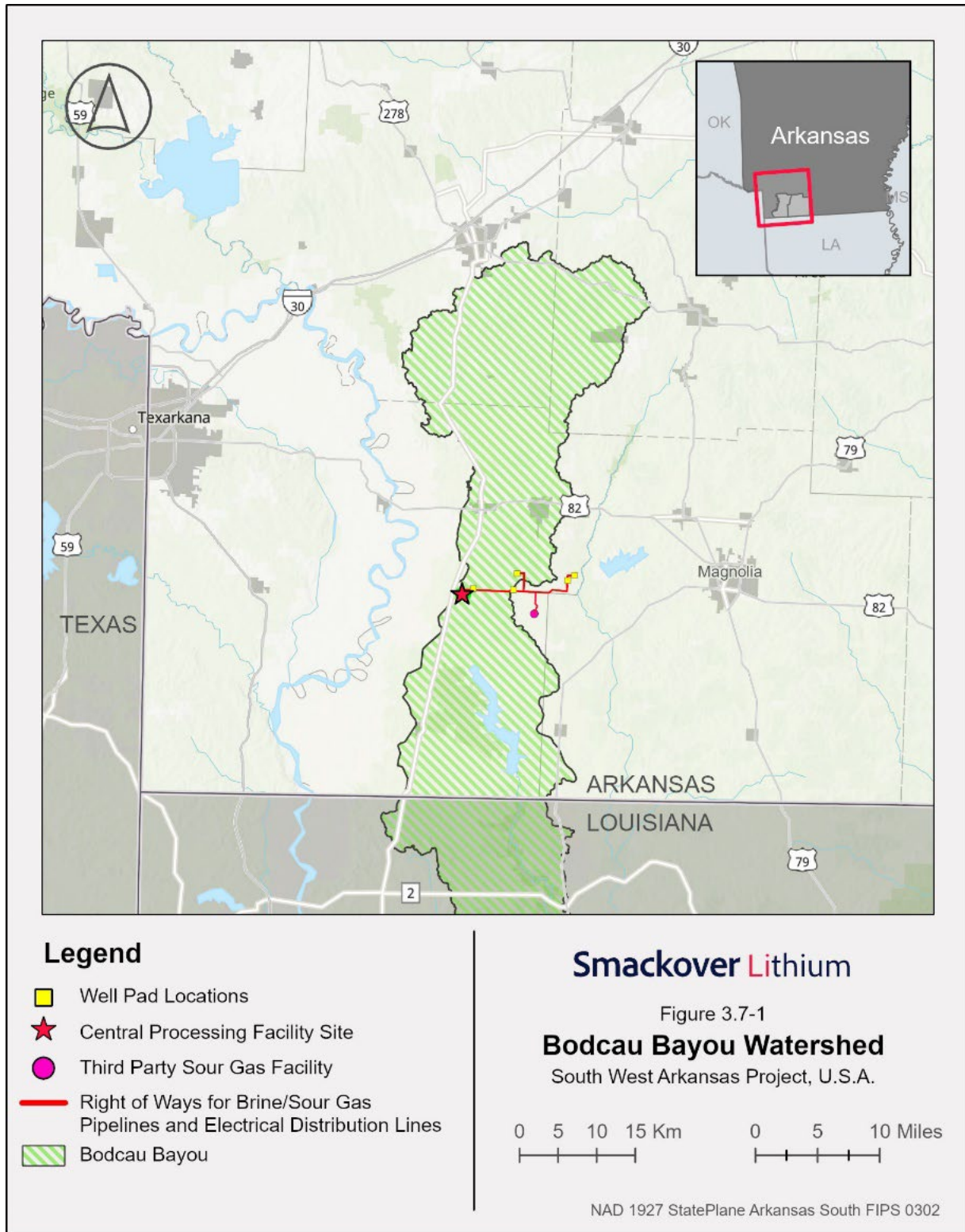
' = feet; dBA = A-weighted decibel; ft = feet; mph = miles per hour; NY = New York; TV = television

FIGURE 3.5-1: SMACKOVER FORMATION, NORTHERN GULF COAST BASIN



km = kilometers

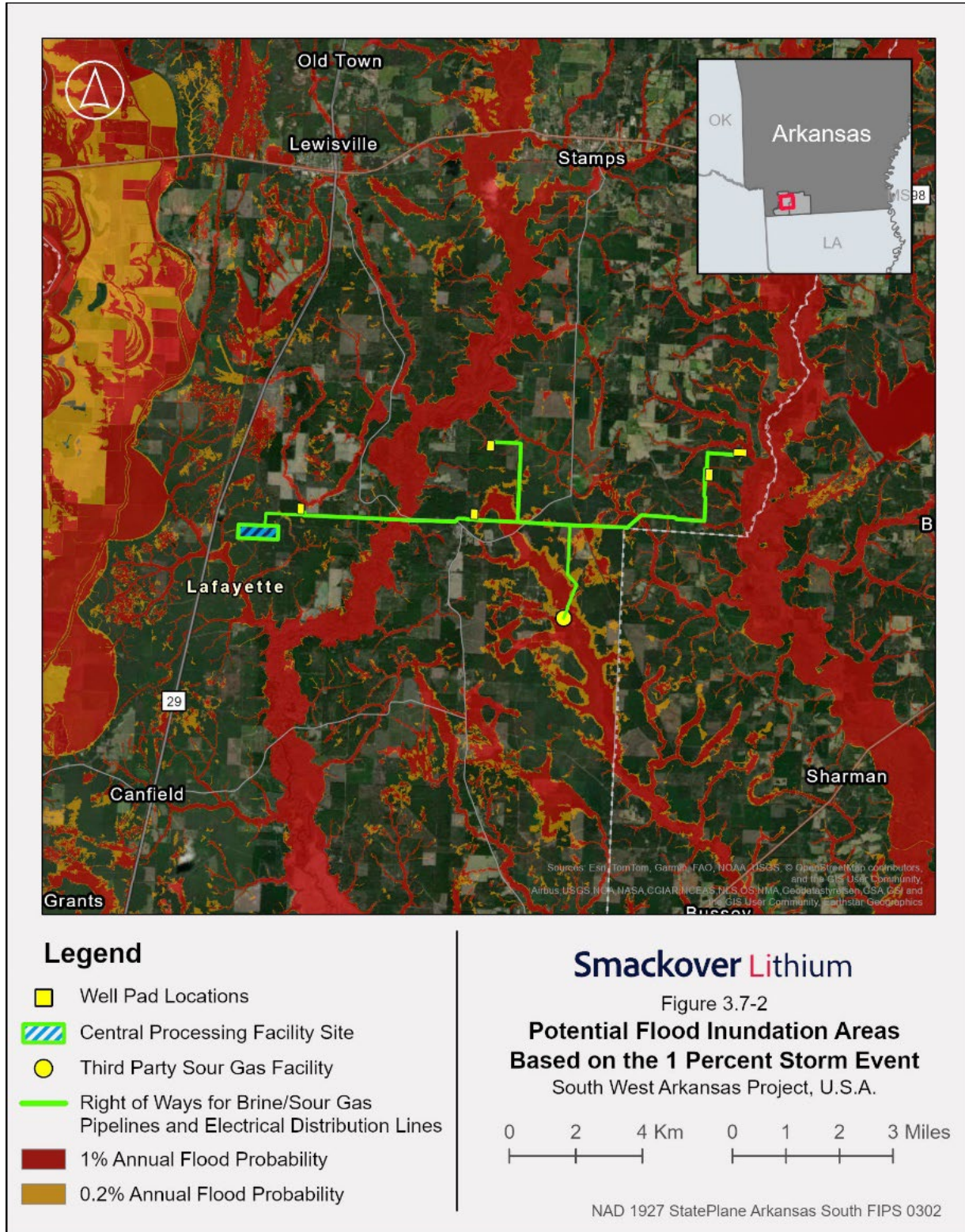
FIGURE 3.7-1: BODCAU BAYOU WATERSHED



Source: Arkansaswater.org 2025

km = kilometers

FIGURE 3.7-2: POTENTIAL FLOOD INUNDATION AREAS BASED ON THE 1 PERCENT STORM EVENT



km = kilometers

APPENDIX F PUBLIC COMMENTS RECEIVED AND RESPONSES

Comment Number	Comment	Response to Comment
Public Commenter #1 - Comments submitted via two e-mails, subject lines "SWA Lithium Draft EA Comments"		
1	After reviewing the Draft EA, I urge the U.S. Department of Energy to withhold approval and instead require a full Environmental Impact Statement (EIS) due to the scale, uncertainty, and potential environmental consequences of this project.	Comment noted. Responses to specific follow-up comments are provided below.
2	The Draft EA appears to underestimate the cumulative environmental impacts associated with the extraction and re-injection of large volumes of brine from the Smackover Formation	Comment noted. The Environmental Assessment was scoped to analyze DOE's proposed action (providing financial assistance for a portion of SWA Lithium's Central Processing Facility). DOE also determined that the wellfield portion, although not funded by DOE, was a reasonably foreseeable effect having a close causal relationship to DOE's proposed action and was analyzed in the Environmental Assessment accordingly. DOE's Environmental Assessment did not analyze other possible direct lithium extraction projects in the area. DOE's regulatory and NEPA authority only extends to those projects receiving federal funding and reasonably foreseeable effects from those federally funded projects. Other separate, non-federal direct lithium extraction projects from the Proposed SWA Project would be outside of DOE's regulatory and NEPA authority, and thus were not analyzed in the Environmental Assessment, in accordance with Section 3.1(a) and Section 3.1(b) of DOE's NEPA Implementing Procedures.
3	The project proposes extracting and re-injecting significant quantities of brine daily through multiple production and injection wells. Activities of this scale raise serious concerns regarding subsurface pressure changes, induced seismicity, and long-term impacts on regional groundwater systems. The EA does not sufficiently analyze worst-case scenarios or long-term monitoring commitments necessary to ensure aquifer protection.	<p>All comments noted.</p> <p>Subsurface pressure and seismicity: Brine extraction and re-injection activities have been ongoing in Arkansas and the surrounding region for decades and risks are well understood, manageable, and underpinned by robust regulatory oversight. Project-related brine production and reinjection are not expected to induce seismic activity. Induced seismic activity in the south Arkansas region has been low to non-existent with over 60 years of brine production and injection and SWA Lithium would implement a robust pressure monitoring program to regularly check well conditions and take action if pressures were to rise above safe levels and mandated by the Arkansas Oil and Gas Commission. Pages 27-30 of the EA provide additional information on the potential for Project-related subsurface pressure changes and induced seismicity.</p> <p>Groundwater: The proposed SWA Project would not be expected to impact groundwater quality in the region. The Arkansas Oil and Gas Commission (AOGC) regulates well drilling and operation to ensure protection of groundwater resources. AOGC permits (pursuant to Rule 24-91) require casing and cementing of wells to prevent shallow groundwater contamination. This is the same standard for oil and gas wells and bromine-related operations in the region., which are commonplace in the region. The AOGC also requires regular monitoring during operation to ensure wells are operating in accordance with permit conditions.</p>
4	The assessment provides insufficient evaluation of risks related to chemical handling and processing at the central processing facility. Lithium extraction and processing operations typically involve chemical reagents, waste streams, and potential emissions that could impact local air quality, soil, and surface water. The EA's analysis of potential accidental releases, waste management, and cumulative emissions appears limited and lacks a detailed examination of potential impacts to nearby communities and ecosystems.	<p>All comments noted.</p> <p>Chemical use and waste: Operation of the CPF requires the handling or processing of a limited number of hazardous chemicals that are regularly used in the region by other industries. The SWA Project has numerous protective measures in place for storage and handling hazardous materials in accordance with regulatory requirements and industry standards. For example, separate storage areas for certain chemicals would be used to ensure they cannot interact and the Project would have spill control and countermeasure plans in place to ensure hazardous materials are handled properly and not released into the environment.</p> <p>The proposed SWA Project would not generate large volumes of waste and would be a small quantity generator of hazardous waste. Pages 51-53 of the EA provides information on waste that would be generated by the Project and plans for managing waste in accordance with all applicable regulatory requirements.</p> <p>Air emissions: Chapter 3.3 of the EA discusses Project-related air emissions. Air emissions generated during construction and operation of the Project would be below U.S. Clean Air Act Major Source thresholds and operation of the CPF would require a minor source permit. Arkansas Department of Environmental Quality (ADEQ) requires that emission sources be identified and quantified and included with the air permit application. SWA Lithium has applied for a minor source air permit with the ADEQ, and the application was determined to be administratively complete in early December 2025. The Project would be the only source of stationary air emissions in the immediate vicinity of the CPF site, so there would be no opportunity for cumulative air emissions.</p> <p>Surface water discharges: Chapter 3.7 of the EA contains information on permitted operational discharges to surface water. The Project would treat any waste water streams prior to discharge to surface waters in accordance with U.S. Clean Water Act and state permitting requirements.</p> <p>Accidental releases: Chapter 3.12 of the EA presents the analysis of Public and Occupational Health and Safety, including accidental releases. All Project facilities would be designed, constructed, and operated in accordance with all applicable federal and state health and safety driven regulatory requirements and aligned with industry best practice. Any accidental or unplanned releases would be localized and would not be expected to result in impacts on the local community or environment.</p>
5	Third, the EA does not adequately address cumulative impacts in a region already experiencing increased interest in lithium extraction from the Smackover Formation. Multiple similar projects could place significant strain on local infrastructure, groundwater systems, and ecosystems. Without a comprehensive cumulative analysis, the document fails to capture the true regional environmental footprint of lithium development in southwest Arkansas.	Comment noted. The Environmental Assessment was scoped to analyze DOE's proposed action (providing financial assistance for a portion of SWA Lithium's Central Processing Facility). DOE also determined that the wellfield portion, although not funded by DOE, was a reasonably foreseeable effect having a close causal relationship to DOE's proposed action and was analyzed in the Environmental Assessment accordingly. DOE's Environmental Assessment did not analyze other possible direct lithium extraction projects in the area. DOE's regulatory and NEPA authority only extends to those projects receiving federal funding and reasonably foreseeable effects from those federally funded projects. Other separate, non-federal direct lithium extraction projects from the Proposed SWA Project would be outside of DOE's regulatory and NEPA authority, and thus were not analyzed in the Environmental Assessment, in accordance with Section 3.1(a) and Section 3.1(b) of DOE's NEPA Implementing Procedures.
6	The Draft EA gives limited attention to potential community impacts, including increased industrial traffic, noise, infrastructure stress, and changes to the rural character of Lafayette County. These impacts deserve more robust analysis, particularly because the proposed infrastructure includes well pads, pipelines, access roads, and processing facilities distributed across thousands of acres.	<p>All comments noted.</p> <p>Local character and community impacts: The Project is not expected to significantly influence the rural character of Lafayette County. Project facilities, including the Central Processing Facility (CPF) and wellfield, would encompass 408 acres of primarily silvicultural land. The CPF is located approximately one mile from the closest residence and is set back from the closest major roadway (AR 29) so there would be limited public visibility of the facility. Once constructed, the wellfield would resemble other well pads and pipelines that are common features of the County from historical oil and gas production. Figures 2.1-3 and 2.1-4 in the EA contain a rendering of the CPF site and photographs of typical well pad surface components, which would resemble what would be developed for the proposed SWA Project. While the proposed SWA Project would introduce new features to the local area, the proposed Project would not significantly alter the rural character of the region from a visual perspective. Also, existing forest that occurs around the CPF and wellfield will limit views of these facilities from residences, roads, and other areas accessible to the public.</p> <p>Traffic: The Proposed SWA Project would result in increased traffic, particularly on AR 29, the primary major roadway servicing the CPF site and wellfield. A new road from AR 29 to the CPF site would be constructed to improve safe site access and accommodate traffic during construction and operations. SWA Lithium commissioned a Route Survey of the anticipated construction traffic route, which concluded that the route can support the volume and type of truck traffic that the Proposed SWA Project would require. Further, a new road from AR 29 to the CPF site would be constructed to improve safe site access and accommodate traffic during construction and operations. Traffic Management Plans would be implemented by SWA Lithium's construction contractors to minimize traffic-related disruption. Operations-phase traffic would be lower than that for construction, estimated at less than 60 round trips per day for material delivery, product shipping, miscellaneous deliveries, and employee commutes. Discussions with Arkansas Department of Transportation indicated that the surrounding highways, including AR 29, are considered under-utilized, and no issues are expected to arise from the increase in traffic from either the construction or operations phases of the Proposed SWA Project. Chapter 3.11 of the EA contains additional information regarding traffic and transportation.</p> <p>Noise: Both construction and operational noise would be below USEPA standards for protecting noise-sensitive receptors (homes, schools, etc.). Please see Comment Response #11 for additional information on Project-related noise.</p> <p>Infrastructure stress: Chapter 3.13 of the EA contains information on potential socioeconomic impacts of the proposed Project, including the potential for Project-related stressors on infrastructure. In summary, the proposed SWA Project would have a beneficial impact on socioeconomics, providing jobs and tax revenue to the local area and state. Project-related traffic would not be expected to create significant traffic or stress on local roadways or place pressure or impede access to education and healthcare services or housing in Lafayette County.</p>

Comment Number	Comment	Response to Comment
7	Finally, given the scale of the proposed industrial activity, the duration of the project's operations, and the uncertainties surrounding direct lithium extraction technologies at commercial scale, it would be more appropriate for the Department of Energy to prepare a full Environmental Impact Statement under the National Environmental Policy Act. An EIS would allow for a more rigorous evaluation of alternatives, cumulative impacts, and long-term environmental risks.	All comments noted. DOE's decision to complete an Environmental Assessment, as opposed to an Environmental Impact Statement, was based on Section 2.2 of DOE's NEPA Implementing Procedures. DOE determined that NEPA applied to SWA Lithium's Proposed Project and DOE's Proposed Action, and a Categorical Exclusion could not be applied towards SWA Lithium's Proposed Project and DOE's Proposed Action. DOE determined that the significance of the effects of DOE's Proposed Action and SWA Lithium's Proposed Project was unknown, and the determination was made to complete an Environmental Assessment. An Environmental Assessment may result in a Finding of No Significant Impact or a determination to prepare an Environmental Impact Statement if significant impacts are present that are not mitigated. DOE has found no significant impacts in the analysis of the Proposed SWA Lithium Project, and the preparation of an Environmental Impact Statement is not warranted.
8	For these reasons, I respectfully request that the Department of Energy delay approval of the proposed action and instead undertake a comprehensive Environmental Impact Statement to ensure that the potential environmental and community impacts are thoroughly evaluated before federal funding is provided.	All comments noted. DOE's decision to complete an Environmental Assessment, as opposed to an Environmental Impact Statement, was based on Section 2.2 of DOE's NEPA Implementing Procedures. DOE determined that NEPA applied to SWA Lithium's Proposed Project and DOE's Proposed Action, and a Categorical Exclusion could not be applied towards SWA Lithium's Proposed Project and DOE's Proposed Action. DOE determined that the significance of the effects of DOE's Proposed Action and SWA Lithium's Proposed Project was unknown, and the determination was made to complete an Environmental Assessment. An Environmental Assessment may result in a Finding of No Significant Impact or a determination to prepare an Environmental Impact Statement if significant impacts are present that are not mitigated. DOE has found no significant impacts in the analysis of the Proposed SWA Lithium Project, and the preparation of an Environmental Impact Statement is not warranted.
9	I am also requesting that my name and contact information NOT to be used for either of my letter.	Comment noted. Name and contact information will not be included in the Environmental Assessment.
10	I am writing to express serious concerns regarding the proposed South West Arkansas Lithium Project described in Draft Environmental Assessment DOE/EA-2304, specifically the location of Pad A, which is planned approximately 1/2 mile from my home.	Comment noted. Responses to specific follow-up comments (#11 - #16) are provided below.
11	I suffer from migraines that are triggered by sound, light, and strong scents. The type of industrial activity proposed—including drilling, heavy equipment operation, truck traffic, and potential chemical odors—poses a direct risk to my health. Exposure to continuous noise, bright lighting, and industrial emissions can trigger severe migraines, along with symptoms such as nausea, dizziness, and sensory sensitivity, significantly impacting my daily life.	<p>All comments noted.</p> <p>Noise: Noise modeling conducted for Well Pad A determined that the predicted noise generated during well drilling and well construction (53 dBA day-night average sound level (Ldn)) would not exceed the USEPA guideline for 24-hour operation (55 dBA) at the closest residence, which is 0.5 mile from the center of Well Pad A (Figure 3.4-2 of Appendix E).</p> <p>Well drilling and construction would be temporary activities, requiring 3-4 weeks per well. During operation, the well pads would not generate significant noise and typical operational noise levels for the well pads were modeled to be below ambient noise levels for the area (Figures 3.4-4 and 3.4-5 of Appendix E). Chapter 3.4 of the EA has been updated to further-describe noise analyses and impacts.</p> <p>Light: The Project would utilize low-intensity, energy efficient lighting (e.g., low pressure sodium lamps) that meets workers' safety requirements while minimizing light pollution. During operation, the well pads would have minimal, downward-facing lighting that is limited to that required for security and safety purposes. The CPF site, where most Project-related lighting would occur, is largely surrounded by mature forest that is taller than the lighting at the CPF. This would limit the visibility of Project lighting in the area surrounding the CPF site. Similar to that described for the well pads, lighting at the CPF site will be downward facing and limited to that required for safety, security, and operation.</p> <p>Odor: The primary odor that could be generated by the Project is sour gas. Sour gas is an expected byproduct from the brine production process at the well pads. As discussed on Page 9 of the EA, the Project plans to capture and separate the sour gas from the brine and transfer it to a third party facility. Pages 57 and 58 detail the well pad and pipeline monitoring systems that will be in place to mitigate the risk of accidental release of sour gas. The other chemical reagents and products associated with operation of the CPF are non-volatile and, therefore, are not expected to generate odors.</p> <p>Air emissions: Please refer to Comment Response #4 above and Chapter 3.3 of the EA for information on Project-related air emissions.</p> <p>Traffic: Please refer to Comment Response #6 above and Chapter 3.11 of the EA for information on Project-related traffic.</p>
12	The possibility of 24-hour construction and operation of Pad A is particularly concerning. Continuous noise, vibration, and lighting during both day and night would make it extremely difficult to rest and recover, especially for someone with migraine sensitivity. Chronic sleep disruption and repeated exposure to these triggers can lead to worsening health conditions over time.	<p>All comments noted.</p> <p>Noise: Please refer to response to Comment Response #11 above for information on Project-related noise. Additionally, Chapter 3.4 of the EA and Figures 3.4-1 through 3.4-5 in Appendix E contain additional information on Project-related noise.</p> <p>Vibration: Project-related activities during construction and operation are not expected to generate vibration that would be perceptible at any offsite feature (e.g., local residence). Well drilling could create some vibration that would be detectable at the ground surface, but it would attenuate quickly with distance from the source: surficial unconsolidated soils would be expected to absorb vibrations within feet to tens of feet of the source.</p> <p>Lighting: Please refer to Comment Response #11 for information on Project-related lighting.</p>
13	The introduction of large-scale industrial lighting so close to our home would disrupt the darkness we rely on and permanently alter the rural character of the area. This level of light pollution is incompatible with the quiet, low-impact environment that residents expect in this community.	<p>All comments noted.</p> <p>Please refer to Comment Response #11 for information on Project-related lighting.</p>
14	The proximity of Pad A and its associated industrial activity would also negatively affect property values. Homes located near industrial operations are often less desirable to potential buyers due to concerns about noise, light, traffic, and environmental risks. This creates a financial burden for property owners who may see a reduction in the value of their investment.	All comments noted. Potential impacts of the Proposed Project that potentially could influence property values, such as changes in air quality, noise levels, visual aesthetics, and traffic are discussed in the Final EA. The Final EA's findings regarding these environmental factors determined that any such impacts will not be significant, or would be mitigated to non-significant levels. Accordingly, this EA uncovered no findings supporting a conclusion that property values in the vicinity of the Proposed Project are likely to be negatively affected as a direct result of the Proposed Project. Other factors unrelated to the Proposed Project (e.g. additional future residential, commercial, or industrial development in the area) could impact property values, but these impacts are speculative and outside the scope of this EA.
15	Equally important is the loss of the ability to enjoy our rural property in peace and quiet. Many residents chose to live in this area specifically for its tranquility, natural surroundings, and low levels of disturbance. The introduction of continuous industrial activity within such close proximity would significantly diminish that quality of life.	<p>All comments noted.</p> <p>Please refer to Comment Response #6 regarding the potential for the Project to influence local rural character.</p> <p>The proposed SWA Project location was in part selected based on its distance from residences and its current and historic anthropogenically-influenced land use (primarily silviculture). Pad A is the closest Project facility to a residence, at a distance of approximately 0.5 mile from the center of Pad A. There is intervening mature forest between Pad A and the closest residence, which would reduce exposure to light and noise associated with well installation. Well installation (drilling) would temporarily generate noise at levels below the USEPA nighttime threshold for sensitive receptors (e.g., residential areas). Lighting at the well pads would be minimized to the maximum extent practicable during drilling activities and lighting would be downward facing, minimizing the extent of nighttime light exposure during drilling. Once operational, the well pad would have minimal, downward-facing lighting that is limited to that required for security and safety purposes. During operation, the well pad equipment would not generate noise that would be perceptible to local residents due to the low level of noise generated, the distance to the closest residences, and the intervening forest that would attenuate sound.</p> <p>Well installation would be temporary, estimated at 3-4 weeks per well, and would occur on a 24-hour basis. Pad A would contain 8 wells (3 supply, 4 re-injection, and one freshwater well). This yields a drilling duration of 24-32 weeks during which there would be elevated noise that is below the USEPA threshold for sensitive receptors and lighting associated with drilling activities that are typical of oil and gas operations in the region.</p>

Comment Number	Comment	Response to Comment
16	For these reasons, I respectfully request that the location of Pad A be reconsidered and moved closer to the main processing plant, where industrial activity is already concentrated. Relocating the pad would reduce the number of residents affected and help protect the health, property values, and quality of life of those living nearby.	<p>All comments noted.</p> <p>The location of Pad A was selected based on several factors, including resource (wetland) avoidance, avoidance of flood prone areas, preference for use of prior disturbed land (e.g., silviculture), land agreements, and design requirements that dictate the general location and layout of the Project's wellfield and distribution of the supply and reinjection wells.</p> <p>The ability of SWA Lithium to move the well pad is restricted by the overall wellfield layout and reservoir characteristics and the Project's overall objective to minimize the total number of well pads.</p>
Public Commenter #2 - Comments submitted via e-mail, subject line "Subject: URGENT: Public Safety Objection - DOE/EA-2304D - Arkansas River Valley Infrastructure Risk"		
17	I am writing to formally object to the Draft Environmental Assessment for the SWA Lithium Project (DOE/EA-2304D) and the pending AOGC reinjection permits (Dockets 023, 024, 026-2025-04).	All comments noted. Approval of pending AOGC reinjection permits is beyond the purview of DOE's authority. Objections to pending AOGC permits should be directed to the AOGC.
18	<p>As a long-term resident, I am flagging a critical failure in the current Environmental Assessment: the lack of a Seismic and Structural Integrity Audit for the Garrison Bridge (US-64) and the Russellville utility/levee nodes.</p> <p>During historic spring flood seasons, the Garrison Bridge reaches capacity and requires emergency closure. Introducing high-volume brine reinjection into this saturated, alluvial geology poses an immediate risk of soil liquefaction. Following the seismic activity recorded on March 28, 2026, in Strawberry, AR, I demand an immediate stay on all federal funding and state permits until a third-party audit is conducted.</p> <p>The safety of the thousands who cross this bridge daily, and the integrity of the River Valley infrastructure, must be prioritized over the April 30th permitting deadline.</p>	<p>All comments noted.</p> <p>Please refer to Comment Response #3 for details on the analysis of seismic and subsurface activity, along with Chapter 3.5 of the EA.</p> <p>The Garrison Bridge and Russellville utility/levee nodes are more than 150 miles from the proposed CPF and wellfield. Due to this, a Seismic and Structural Integrity Audit for the Garrison Bridge and Russellville utility/levee nodes completed by DOE is not necessary. Other federal, state, and local agencies would be responsible for issuing permits and conducting studies and inspections of infrastructure such as bridges and levees.</p> <p>Brine will not be reinjected into the saturated, alluvial geology near the Garrison Bridge. Brine will be reinjected more than 8,000 feet into the Smackover Formation via regulated wells located over 150 miles from the Garrison Bridge.</p>