

U.S. Department of Transportation
Federal Aviation Administration
Southwest Region

Finding of No Significant Impact (FONSI)

Fort Smith Regional Airport
Solar Array Project
Fort Smith, Arkansas

November 2023

1. INTRODUCTION

This document serves as a Finding of No Significant Impact (FONSI) for the proposed Federal Aviation Administration (FAA) actions necessary for the implementation of the Solar Array Project at Fort Smith Regional Airport (FSM), in Fort Smith, Arkansas. Fort Smith Regional Airport Commission, as owner of the airport, is the airport sponsor and proponent of the proposed airport improvements.

The Federal Aviation Administration (FAA) is the federal agency responsible for the approval of the Proposed Action analyzed in the Environmental Assessment (EA). The FAA has determined that the Proposed Action will have no significant impact to the human environment.

2. PROPOSED FEDERAL ACTION

The federal actions necessary for implementation of the Proposed Action include:

1. Determination under 49 U.S. Code (USC) §§40103(b) and 47107(a)(16), relating to the eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP),
2. Determination under 49 USC §40117, as implemented by 14 CFR §158.25, to impose and use passenger facility charges (PFC) collected at the airport to assist with construction of potentially eligible items shown on the Airport Layout Plan (ALP),
3. Unconditional approval of the ALP portion depicting the Proposed Action as described in the attached EA within Section 3.2.

3. PURPOSE AND NEED

Pursuant to the National Environmental Policy Act (NEPA) and FAA Orders 1050.1F, Environmental Impacts: Policies and Procedures and 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, an EA must include a description of the purpose of a proposed action and the reasons it is needed. The purpose of and the need for the Proposed Action are discussed below.

The purpose of the Proposed Action is to establish a solar array energy system that will supplement the terminal building's existing and forecasted electrical demand, reduce the airport's reliance on fossil fuels, and move the airport toward the use of renewable energy.

The Proposed Action is needed to supplement the current and projected electricity demand of the airport's terminal building and reduce long-term electricity costs. The need would be fulfilled by providing a solar PV system designed in compliance with 14 CFR Part 77.

4. ALTERNATIVES

FAA Orders 1050.1F and 5050.4B require a thorough objective assessment of the Proposed Action, No Action alternative, and all "reasonable" alternatives that would achieve the stated purpose and need of the Proposed Action. The Alternatives analysis is consistent with the requirements of the Orders. See Section 3.1 of the attached EA for a detailed alternatives evaluation.

4.1 No Action Alternative (NAA)

Under the NAA, existing infrastructure would remain at FSM and the proposed project would not be implemented. The NAA does not meet the stated purpose and need for this project but was carried forward in the analysis of environmental consequences in accordance with Council on Environmental Quality requirements.

4.2 Proposed Action Alternative

Alternative 1 is considered the Proposed Action and includes installation of 1,920 solar PV system panels between McKennon Blvd. and the 35-foot building restriction line (BRL) associated with Runway 1-19. This location is identified for non-aviation use reserve area according to the MPU and ALP. Solar PV system panels shall be positioned according to the conceptual layout as shown on Figure 4 of the attached EA. Alternative 1 satisfies the objectives of the purpose and need by providing the needed annual cost reduction, reduced reliance on the outside electrical utility provider, and moves the airport toward the 2050 zero-emissions goal. The Proposed Action includes the following connected actions:

Trenching Electric Lines

As a result of positioning the solar PV array between the building restriction line of Runway 1-19 and McKennon Blvd., buried electric lines would be installed to connect to the airport terminal building. No easements would be required for connecting electric lines to the main terminal building.

Solar Panel Installation

The solar photovoltaic (PV) array equipment will consist of 1,920 First Solar FS-6450A-C panels and five SMA Sunny Highpower PEAK3 125-US inverters (Entegry Solar, 2022). The solar PV array will be configured to avoid wetlands as much as possible and designed to accommodate FAA separation distance requirements provided in AC 150/5300-13B for the safe and efficient maneuvering of aircraft in relation to the BRL associated with Runway 1-19. Refer

to Figure 4 of the attached EA for the solar PV array conceptual layout. This installation would require clearing and grubbing of approximately 4.2 acres of existing airport maintained grassed area.

Airport Operations Area (AOA) Security Fence

Removal of approximately 250 linear feet and installation of approximately 334 linear feet of airport operations area (AOA) security fence and partial security fence is required for installation of the PV system. The relocated AOA security fence would meet standard design and signage criteria identified in the current edition of FAA Advisory Circular 150/5370-10 *Standards for Specifying Construction of Airports*.

5. ENVIRONMENTAL CONSEQUENCES

The environmental impacts, if any, of the proposed alternatives were examined in the EA according to the FAA Orders 5050.4B and 1050.1F. The environmental impacts of the Proposed Action alternatives are presented in this section.

A number of resources will not be impacted by implementation of the Proposed Action and will not be further discussed in detail in this FONSI.

5.1 Biological Resources

Direct impacts to approximately 4.2 acres of herbaceous vegetation will decrease available habitat for bird, reptile, and mammal species. Table 4 of the attached EA provides information on impact quantities for each Federal and state listed species. Vegetation removal is consistent with the airport's Wildlife Hazard Management Plan (WHMP) in removing potential hazardous wildlife attractants (i.e., wetlands) on the airport in accordance with AC 150/5500-33C.

Informal Section 7 consultation was completed on April 7, 2023. The Proposed Action would have a no effect determination for the Indiana bat and Northern long-eared bat, and a not likely to adversely effect determination for the Eastern black rail, piping plover, and the red knot. The Proposed Action would have a May Affect determination for the American burying beetle (ABB). Approximately 3.67 acres of suitable ABB habitat would be disturbed by the Proposed Action and is shown on Figure 6 of the attached EA. This project complies with the final 4(d) rule with incidental take covered by the U.S. Fish and Wildlife Service's (USFWS) October 15, 2020, Intra-Service Programmatic Biological Opinion on the final 4(d) rule for the ABB addressing "Activities Excepted from Take Prohibitions" and complies with Section 7(a)(2) with respect to the ABB. No further consultation is required for the Proposed Action for this species. The USFWS concurred with these determinations, and therefore no further consultation is required. The Proposed Action would not jeopardize the continued existence of the alligator snapping turtle or monarch butterfly. Refer to Appendix C of the attached EA for USFWS coordination and Appendix D of the attached EA for a list of federally listed species.

5.2 Water Resources

Two emergent wetlands, Wetland 1 and Wetland 2, were identified within the study area and

shown on Figure 7 and figures in Appendix E of the attached EA. The Proposed Action is anticipated to fill approximately 0.49 acres of emergent wetlands within the direct study area as identified in Table 5 of the attached EA. Potential impacts to water quality resulting from stormwater runoff during construction were also assessed. Temporary, short-term impacts to surface waters within the disturbed areas may occur from stormwater runoff during construction. These impacts, which may occur because of increased sedimentation and siltation resulting from land disturbance, may temporarily decrease water quality. However, these impacts are not anticipated to be significant as best management practice measures and provisions and specifications of FAA Advisory Circular 150/5370-10F *Standards for Specifying Construction of Airports* will be implemented to avoid and/or minimize adverse construction activities. The appropriate Section 401 water quality certification shall be obtained in conjunction with the required Section 404 permit. No other construction-related impacts to wetlands are anticipated because of the Proposed Action.

As the Proposed Action cannot fully avoid alterations to waters of the U.S., comprehensive mitigation to provide replacement of lost aquatic resource benefits will be required. To mitigate for wetland loss, FSM would purchase 3.77 wetland credits from a U.S. Army Corps of Engineers (USACE) approved compensatory mitigation bank within the primary service area, or 5.66 wetland credits from an approved and operating mitigation bank servicing the secondary service area as determined by the USACE. It is anticipated that all wetland impacts can be mitigated and therefore would not be considered significantly adverse. Wetland credit calculations were provided with the Section 404 permitting package submitted to the USACE by on September 29, 2023 and confirmed with the issuance of the Section 404 Nationwide Permit 51 received on October 3, 2023 (refer to Appendix F of the attached EA). The appropriate Section 401 water quality certification is issued with the nationwide permit.

6. AGENCY COORDINATION AND PUBLIC INVOLVEMENT

The intent of the agency and Tribal coordination is to solicit input early in the process regarding potential environmental, cultural, and archeological resources which could be impacted by the Proposed Action. The below-listed agencies and Native American Tribes were consulted during the preparation of this EA. All agency coordination is provided in Appendix C of the attached EA.

Agencies Consulted and Dates of Consultation:

- Arkansas Historic Preservation Program (AHPP) – Responses received June 20 and July 14, 2023
- U.S. Army Corps of Engineers (USACE) – Initial response received July 7, 2023. Preliminary Jurisdictional Determination received July 20, 2023. Section 404 Nationwide permit received on October 3, 2023
- U.S. Fish and Wildlife Service (USFWS) – Response received June 16, 2023
- Arkansas Natural Heritage Commission (ANHC) – Response received June 16, 2023

Tribes Consulted (initial Tribal consultation occurred July 27, 2023):

- Caddo Nation – response received July 28, 2023
- Cherokee Nation – response received August 21, 2023

- Choctaw Nation of Oklahoma – no response
- Muscogee (Creek) Nation – no response
- Osage Nation – response received September 7, 2023
- Shawnee Tribe – no response
- Quapaw Nation – cultural resource survey submitted August 8, 2023
- Chickasaw Nation – no response

The Draft Environmental Assessment was completed in September 2023 and was prepared for public review and comment prior to advertising a notice of opportunity to request a public hearing. On October 20, 2023, FSM opened the public comment period by placing advertisements on their website (flyfsm.com) and in the Southwest Times Record, a newspaper of general circulation throughout Fort Smith and Sebastian County, Arkansas. A copy of the advertisement and affidavit of publication are included in Appendix G. Hardcopies of the Draft EA were made available for the public to review until November 19, 2023, at the FSM terminal building. Opportunities were provided to the public to respond to the EA via letter, email, website comment response, or by telephone. No comments were received.

7. CONDITIONS AND MITIGATION

As prescribed by 40 CFR §1505.3, the FAA shall take steps as appropriate to the action, such as through special conditions in grant agreements, property conveyance deeds, releases, airport layout plan approvals, and contract plans and specifications and shall monitor these as necessary to assure that representations made in the EA and FONSI will be carried out. Specific conditions of approval associated with this project are listed below:

- Wetland mitigation is required for unavoidable impacts to 0.49 acre of emergent wetlands. Wetland mitigation in the amount of 3.77 credits from an approved and operating mitigation bank within the primary service area or 5.66 credits from an approved and operating mitigation bank within the secondary service area will be purchased by FSM prior to construction to compensate for these impacts through the Section 404 permit process. A detailed list of additional mitigation measures are included in Section 6.0 of the attached EA.

8. FINDINGS

Throughout the development of the airport, including the proposed improvements described above, the FAA has made every effort to adhere to the policies and purposes of NEPA, as stated in the NEPA implementing regulations. The FAA has concentrated on the truly significant issues related to the action in question. The FAA determined that the Proposed Action is in compliance with FAA Order 1050.1F 6-3.b(2). In its determination on whether to prepare an Environmental Impact Statement (EIS) or process the EA as a FONSI, the FAA weighed its decision based on an examination of the EA, and comments from Federal and state agencies, as well as all other information available to the FAA.

The FAA makes the following determinations for this project based upon a careful review of the attached EA, the supporting administrative record, and appropriate supporting information. The

FAA weighed both the potential positive and negative consequences that this Proposed Action may have on the quality of the human environment. The FAA has determined that the Proposed Action meets the purpose and need of the proposed project and best implements necessary airfield modifications to meet FAA design standards.

The following determinations are prescribed by the statutory provisions set forth in the Airport and Airway Improvement Act of 1982, as codified in 49 USC §47106 and 47107.

- The FAA has determined the Proposed Action would result in safe and efficient use of U.S. airspace as prescribed in 49 U.S.C. §40103(a).
- The Proposed Action is reasonably necessary for use in air commerce (49 U.S.C. §44502(b)).
- The Proposed Action is reasonably consistent with existing plans of public agencies responsible for development of the area surrounding the airport (49 U.S.C. §47106(a)(1)).
- The interests of the community in or near where the Proposed Action is located have been given fair consideration (49 U.S.C. §47106(b)(2)).

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101 of NEPA and other applicable environmental requirements and, with the required mitigation referenced above, will not significantly affect the quality of the human environment, or otherwise include any condition requiring any consultation pursuant to section 102(2)(C) of NEPA. As a result, FAA has determined that preparation of an EIS is not necessary for this proposed action and is therefore issuing this FONSI.

The undersigned, therefore, now approves and directs action as needed, to carry out the agency action outlined above under Proposed FAA Actions required for the Solar Array Project described under the Proposed Action in the attached EA and this FONSI. These actions are directed to be taken, and determinations and approvals are made, under the authority of 49 U.S.C. §§40104, 44701, 46110, 47101, and 47122.

RECOMMENDED
FOR APPROVAL:

**JOHN J
MACFARLANE**

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JOHN J MACFARLANE
Date: 2023.11.30
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Date: _____

John MacFarlane
Environmental Protection Specialist
Planning and Programming Branch

APPROVED:

GLENN A BOLES

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Date: _____

Glenn Boles
Manager
Arkansas/Oklahoma Airports District Office

Environmental Assessment (EA)

Fort Smith Regional Airport Solar Array Project

**Fort Smith Regional Airport Commission
Fort Smith, Arkansas**

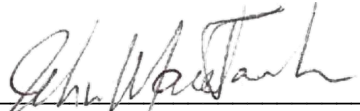
November 20, 2023

Prepared by:



Solar Array Project

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the responsible FAA official.



Responsible FAA Official

11/21/2023

Date

Solar Array Project

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1.0 Introduction and Background

The Fort Smith Regional Airport (FSM or Airport) is a public use airport that is owned and operated by the Fort Smith Regional Airport Commission and serves general aviation, commercial service traffic, and military aircraft. The Airport is located on the east side of Fort Smith, Arkansas and is situated between Interstate 540 (I-540), Rogers Avenue and Zero Street. A general location map of the Airport in relation to the city is shown in **Figure 1**. The Airport covers approximately 1,403 acres, has one primary use runway, a secondary runway, full parallel taxiways, ground support equipment, and one active concourse with three gates.

The Airport's 2020 Airport Master Plan Update (MPU) states that FSM will continue to accommodate commercial airline service, general aviation, and military-use through the 20-year planning period¹, which is considered to be 2038. FSM proposes to establish a solar photovoltaic (PV) system to provide electricity to the terminal building, which shall constitute the Proposed Action. This action will support the reduction of the airport's long-term electric utility costs and dependence on the local electric utility provider. In addition, the Proposed Action is in-line with the FAA *Airports Climate Challenge* initiative to help achieve net-zero emissions by 2050. The Proposed Action and connected actions are described in detail in Section 3.

This Environmental Assessment (EA) has been prepared per the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality (CEQ) implementing regulations, (40 Code of Federal Regulations (CFR) Parts 1500-1508), Federal Aviation Administration (FAA) Orders 5050.4B and 1050.1F, and the FAA Environmental Desk Reference for Airport Actions. A list of EA preparers is located in **Section 8**.

¹ The final draft of the FSM Airport Master Plan Update was completed in April 2020.

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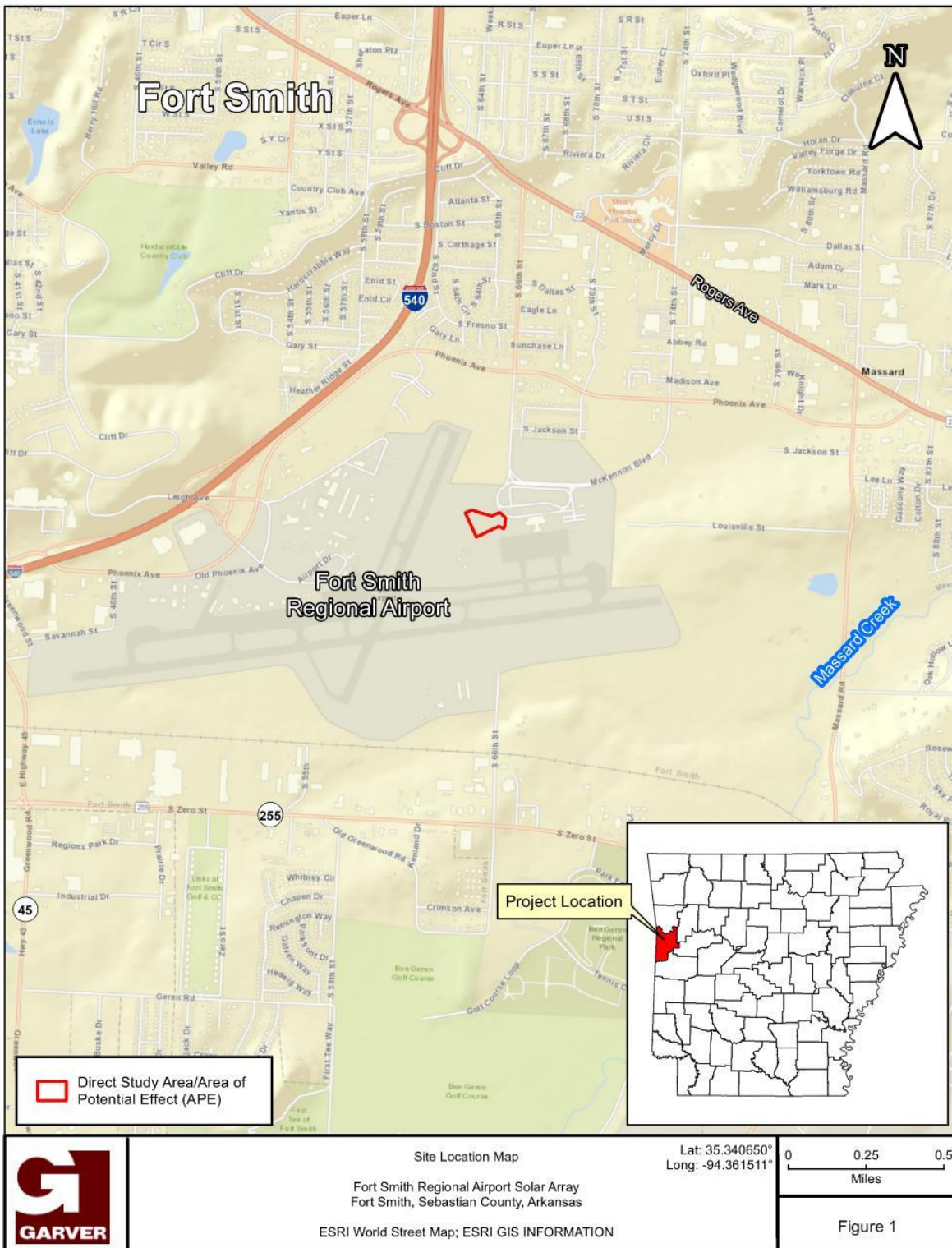


Figure 1 – Site Location Map

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2.0 Purpose and Need

2.1 Purpose

The purpose of the Proposed Action is to establish a solar array energy system that will supplement the terminal building's existing and forecasted electrical demand, reduce the airport's reliance on fossil fuels, and move the airport toward the use of renewable energy. The Proposed Action is in compliance with Executive Order (EO) 14057 – *Planning for Federal Sustainability in the Next Decade* and the Energy Policy Act of 2005. All design and development associated with the Proposed Action, including connected actions identified in **Section 3**, would meet current FAA Airport Design Standards per Advisory Circular (AC) 150/5300-13A, 14 Code of Federal Regulations (CFR) Part 77 airspace regulations, AC 150/5325-4B, and other appropriate FAA ACs. The Proposed Action and connected actions would be designed to be compatible with current electric utility service provided by OGE Energy Corporation and located within a designated non-aviation use reserved area according to the latest Airport Layout Plan (ALP). The FAA's Federal Action includes approval of the ALP to reflect the Proposed Action. **Figure 2** shows the location of the non-aviation use area proposed for the Proposed Action.

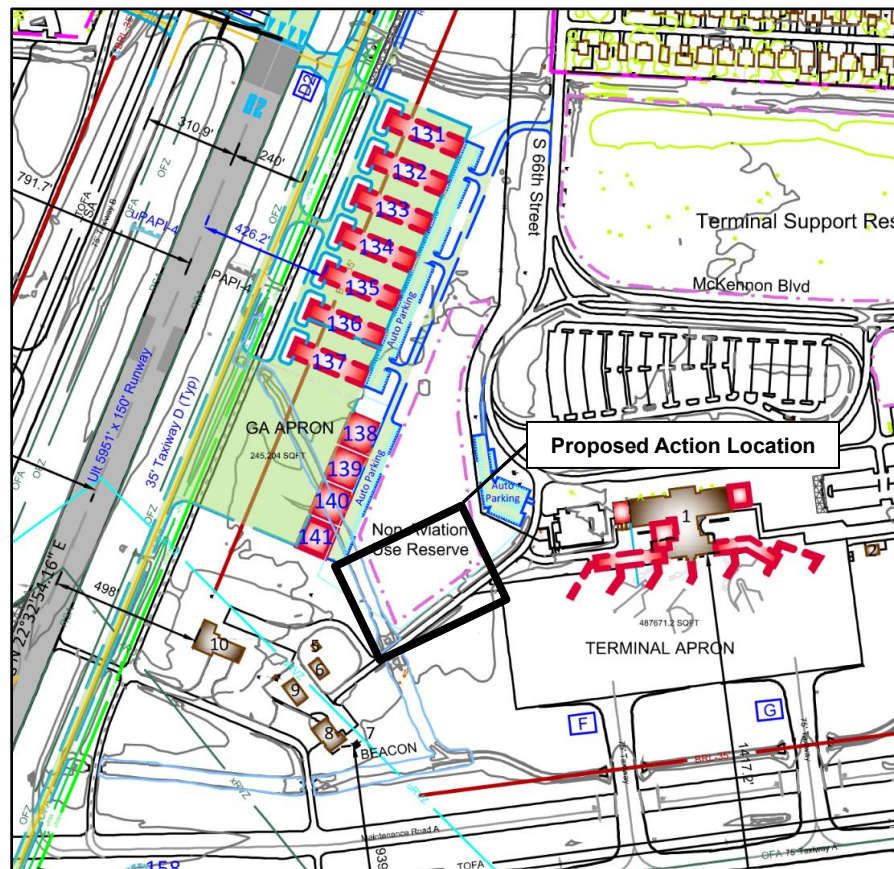


Figure 2 – 2020 ALP Layout

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2.2 Need

The Proposed Action is needed to supplement the current and projected electricity demand of the airport's terminal building and reduce long-term electricity costs. The need would be fulfilled by providing a solar PV system designed in compliance with 14 CFR Part 77. The airport's existing annual electricity cost is almost \$112,000, with an average annual usage of 1,229,297 kilowatts per hour (kWh). The Proposed Action would reduce electricity costs by 83 percent and annual electricity usage required by the electric utility provider by 89 percent (Entegriy Solar, 2022). Installation of the solar PV system would also reduce the electrical demand on the City of Fort Smith electrical grid system. Refer to **Appendix A** for the Entegriy Solar Rate Analysis report.

The following actions are included as part of the Proposed Action, installation of a solar PV system, and are needed to comply with the airport development standards set forth by FAA:

- Trenching of electrical lines.
- Electrical system upgrades.
- Relocation of airport security fence and addition of an access gate.
- Construction of a small access drive to the site for future maintenance.
- Installation of a solar PV system, including panels and inverters.

3.0 Alternatives

3.1 Alternatives Evaluation

To achieve the desired reduction in operating costs and provider usage, five build alternative locations were considered.. The No Action Alternative will not meet the purpose and need for the project; however, it was retained to satisfy the requirements of NEPA and maintain a baseline to allow for a comparison of impacts.

Five build alternative locations were evaluated as part of the EA, all of which encompass 4.2 acres of land. All design and development associated with the Proposed Action and build alternatives, including connected actions would meet current FAA Airport Design Standards per Advisory Circular (AC) 150/5300-13A, 14 Code of Federal Regulations (CFR) Part 77 airspace regulations, AC 150/5325-4B, and other appropriate FAA ACs. The Proposed Action, build alternatives, and connected actions would be designed to be compatible with current electric utility service provided by OG&E Energy Corporation.

Five build alternative locations were considered for the Proposed Action and are shown on **Figure 3**. These five locations are all in close proximity to the existing terminal building and entirely on airport property. Evaluation factors included:

- Floodplains (100-year and 500-year).
- Wetlands (all wetlands within all alternatives are emergent wetlands).
- Threatened and endangered species habitat (T&E). This includes habitat for the American Burying Beetle, Northern Long-eared Bat, and Indiana Bat.

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- Proximity to the OG&E three phase transformer (primary electrical service to the airport).
- AOA security fence alterations.
- Access road for operations and maintenance (O&M).
- Costs (includes wetland mitigation, stream crossings, trenching, and fence costs).
- Layout restrictions (available space restrictions limit productiveness of the solar array).
- Consistency with the Airport Layout Plan (ALP).

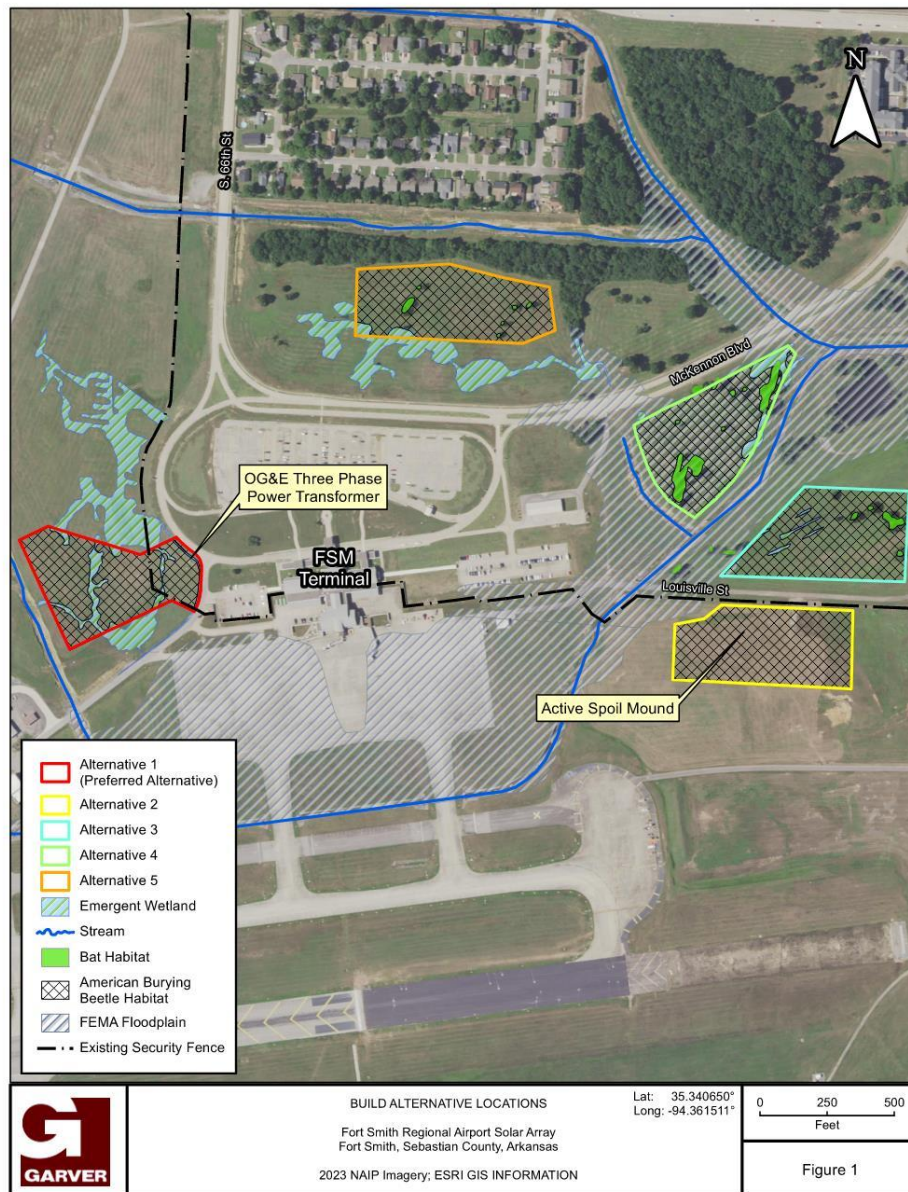


Figure 3 – Build Alternative Locations

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3.2 Alternative 1 – Proposed Action

Alternative 1 is considered the Proposed Action and includes installation of 1,920 solar PV system panels between McKennon Blvd. and the 35-foot building restriction line (BRL) associated with Runway 1-19. This location is identified for non-aviation use reserve area according to the MPU and ALP. Solar PV system panels shall be positioned according to the conceptual layout as shown on **Figure 4**. Alternative 1 satisfies the objectives of the purpose and need by providing the needed annual cost reduction, reduced reliance on the outside electrical utility provider, and moves the airport toward the 2050 zero-emissions goal. The Proposed Action includes the following connected actions:

3.2.1 Trenching Electric Lines

As a result of positioning the solar PV array between the BRL of Runway 1-19 and McKennon Blvd., buried electric lines would be installed to connect to the airport terminal building. No easements would be required for connecting electric lines to the main terminal building.

3.2.2 Solar Panel Installation

The solar PV array equipment will consist of 1,920 First Solar FS-6450A-C panels and five SMA Sunny Highpower PEAK3 125-US inverters (Entegriety Solar, 2022). The solar PV array will be configured to avoid wetlands as much as possible and designed to accommodate FAA separation distance requirements provided in AC 150/5300-13B for the safe and efficient maneuvering of aircraft in relation to the BRL associated with Runway 1-19. Refer to **Figure 4** for the solar PV array conceptual layout. This installation would require clearing and grubbing of approximately 4.2 acres of existing airport maintained grassed area.

Per FAA guidelines (14 CFR Part 77), a Notice of Proposed Construction or Alteration Form 7460-1 containing the glint/glare analysis (as shown in **Appendix B**) would be required. This form was submitted to FAA and their response is included in **Appendix C**.

3.2.3 Airport Operations Area (AOA) Security Fence

Removal of approximately 250 linear feet and installation of approximately 334 linear feet of AOA security fence and partial security fence is required for installation of the PV system. The relocated AOA security fence would meet standard design and signage criteria identified in the current edition of FAA Advisory Circular 150/5370-10 *Standards for Specifying Construction of Airports*.

3.3 Proposed Action Construction Phasing

The Proposed Action is anticipated to be constructed in phases as outlined below:

- Solar Array Installation: 4th Quarter 2023 – 2nd Quarter 2024

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Figure 4 – Proposed Action Overview

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3.4 Alternative 2

Alternative 2 is located within an active spoil mound area associated with the Runway 26 extension project. This entire site is previously disturbed and is up to 60 feet higher in elevation than the surrounding ground. Although this site is void of vegetation, floodplains, and wetlands, the significant elevation changes are not suitable for construction of a PV system without major costs associated with dirt removal. Evaluation of this alternative includes the following results:

- Floodplains – No direct impact but includes temporary impacts from electrical trenching to 100-year and 500-year floodplains.
- Wetlands – No direct impact but possible temporary impacts from electrical trenching.
- T&E Species Habitat – No impact.
- Proximity to the OG&E primary service – Approximately 2,000 feet away. Additional trenching would require either boring or open cut trenching one stream crossing, crossing the 100-year floodplain, and multiple road crossings.
- AOA security fence alterations – Removal of 50 feet of fence.
- Access road – Minimal due to connection with Louisville St.
- Costs – Significant costs associated with spoil removal and additional trenching. Reduced financial viability due to distance from electric service and required boring or stream crossing.
- Layout restrictions – None.
- Consistency with ALP – Requires land release. Removes area designated for future general aviation development.

3.5 Alternative 3

Alternative 3 is located between Louisville St. and an unnamed tributary to Massard Creek. Evaluation of this alternative includes the following results:

- Floodplains – No direct impact but includes temporary impacts from electrical trenching to 100-year and 500-year floodplains.
- Wetlands – 0.09 ac of permanent fill and possible temporary impacts associated with electrical trenching.
- T&E Species Habitat – 4.06 ABB habitat. 0.09 ac of summer roosting bat habitat.
- Proximity to the OG&E primary service – Approximately 2,050 feet away. Additional trenching would require either boring or open cut one stream crossing and multiple road crossings.
- New fence construction – Installation of over 1,375 feet of fence.
- Access road – Access road would cross a stream and increase costs.
- Costs – Reduced financial viability due to distance from electric service and required boring or stream crossing.
- Layout restrictions – None.
- Consistency with ALP – Requires land release.

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3.6 Alternative 4

Alternative 4 is located between an unnamed tributary to Massard Creek and McKennon Blvd. and entirely within the 100-year floodplain. Evaluation of this alternative includes the following results:

- Floodplains – 4.2 ac of the 100-year floodplain. Additional temporary impacts from electrical trenching to 100-year and 500-year floodplains would occur.
- Wetlands – 0.19 ac of permanent impact and possible temporary impacts associated with electrical trenching.
- T&E Species Habitat – 0.4 ac of summer roosting bat habitat and 4.01 ac of ABB habitat.
- Proximity to the OG&E primary service – Approximately 1,950 feet away. Additional trenching would require either boring or open cut one stream crossing and multiple road crossings.
- New fence construction – Installation of over 1,840 feet of fence.
- Access road – Minimal due to connection with McKennon Blvd.
- Costs – Reduced financial viability due to distance from electric service and required boring or stream crossing, and given the shape, would increase costs and reduce financial return. Estimated \$10,000 in wetland mitigation costs.
- Layout restrictions – Site shape renders this alternative mostly useless to not ideal.
- Consistency with ALP – Requires land release.

3.7 Alternative 5

Alternative 5 is located north of McKennon Blvd. and east of S. 66th Street within an area identified on the ALP as Terminal Support Reserve. Evaluation of this alternative includes the following results:

- Floodplains – No impact.
- Wetlands – 0.14 ac of permanent impact and possible temporary impacts associated with electrical trenching.
- T&E Species Habitat – 4.0 ac of ABB habitat. 0.06 ac of summer roosting bat habitat.
- Proximity to the OG&E primary service – Approximately 680 feet away. Additional trenching would require either boring or open cut trenching one stream crossing and multiple road crossings.
- New fence construction – Installation of over 1,890 feet of fence.
- Access road – An approximate 500-foot-long access road would increase costs and impact additional ABB habitat.
- Costs – The land use in this area is of higher value than the solar array. Additional costs would be incurred due to pavement rehab or boring for the electric line. Estimated \$7,000 in wetland mitigation costs.
- Layout restrictions – None.
- Consistency with ALP – Requires land release.

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3.8 Alternatives Summary

After analysis, the preferred alternative (Alternative 1) is the least environmentally damaging practicable alternative. It meets the project need and purpose, and there are no practicable alternatives with less impacts to the natural and built environment. Alternatives 2, 3, 4, 5 are considered impracticable based on significant increases in costs and connected action impacts associated with AOA fencing, reduced financial viability, proximity to electrical supply, trenching impacts, stream impacts, land value, and layout limitations. Refer to **Table 1** for a summary of the potential impacts associated with each alternative. The No Action Alternative does not meet the project purpose and need; therefore, is not considered a viable alternative.

Table 1 – Build Alternative Impacts Summary

Factors Considered	Alternatives Considered				
	Alternative 1 Proposed Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Floodplains (ac)	None	None	< 10%	100%	None
Wetlands* (ac)	0.49 ac	None	0.09 ac	0.19 ac	0.14 ac
T&E Species Habitat** (ac)					
- ABB	3.67 ac	0 ac	4.06 ac	4.01 ac	4.00 ac
- Bats	0 ac	0 ac	0 ac	0 ac	0 ac
Transformer Proximity*** (lf)	On-site	2,000 lf	2,050 lf	1,950 lf	680 lf
Fence Installation (lf)	584 lf	50 lf	1,375 lf	1,840 lf	1,890 lf
Access Road for O&M (lf)	Minimal access road	Minimal access road	Minimal access road, Stream crossing	Minimal access road, Stream crossing	Long access road
Cost	Baseline Good Viability	Significant Reduced Financial Viability	Reduced Financial Viability	Reduced Financial Viability	Land value is greater than project
Layout Limitations	None	None****	Moderate	Significant	None
Consistency with ALP	Yes	No	No	No	No

* Desktop delineation of wetlands from compiled resources.

** See Draft Environmental Assessment for federally listed species.

*** Linear feet from transformer to nearest connection point of alternative.

****Assumes spoil mound is removed. If spoil mound remains, this site is not feasible for a solar array system.

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4.0 Affected Environment, Environmental Consequences, and Mitigation

4.1 Introduction

This section describes the existing environmental conditions within the study area for resources that could be affected by the Proposed Action. A site visit was conducted on March 7, 2023 to document the existing conditions and environmental resources within the study area. Resources were identified and impacts evaluated according to FAA Orders 1050.1F, 1050.1F Desk Reference, and 5050.4B. The No Action Alternative is retained to satisfy the requirements of NEPA and provide an environmental baseline for the build alternative. Agencies consulted during preparation of the EA also contributed to the evaluation of the potential effects on specific resources. The study area consists of approximately 4.2 acres in size and is described below in detail.

4.2 Study Area

Figure 5 shows the study area for the Proposed Action developed to adequately assess potential direct impacts incurred by the Proposed Action. The indirect study area is defined as the area in which visual effects could be observed and is included in the study area, also shown in **Figure 5**.

The descriptions, photographs, and figures in this section depict current conditions within the study area and the resources that will be affected as the project moves forward through design and into construction. Photographs of the project site are included below. **Figure 5** shows the location where each photograph was taken.

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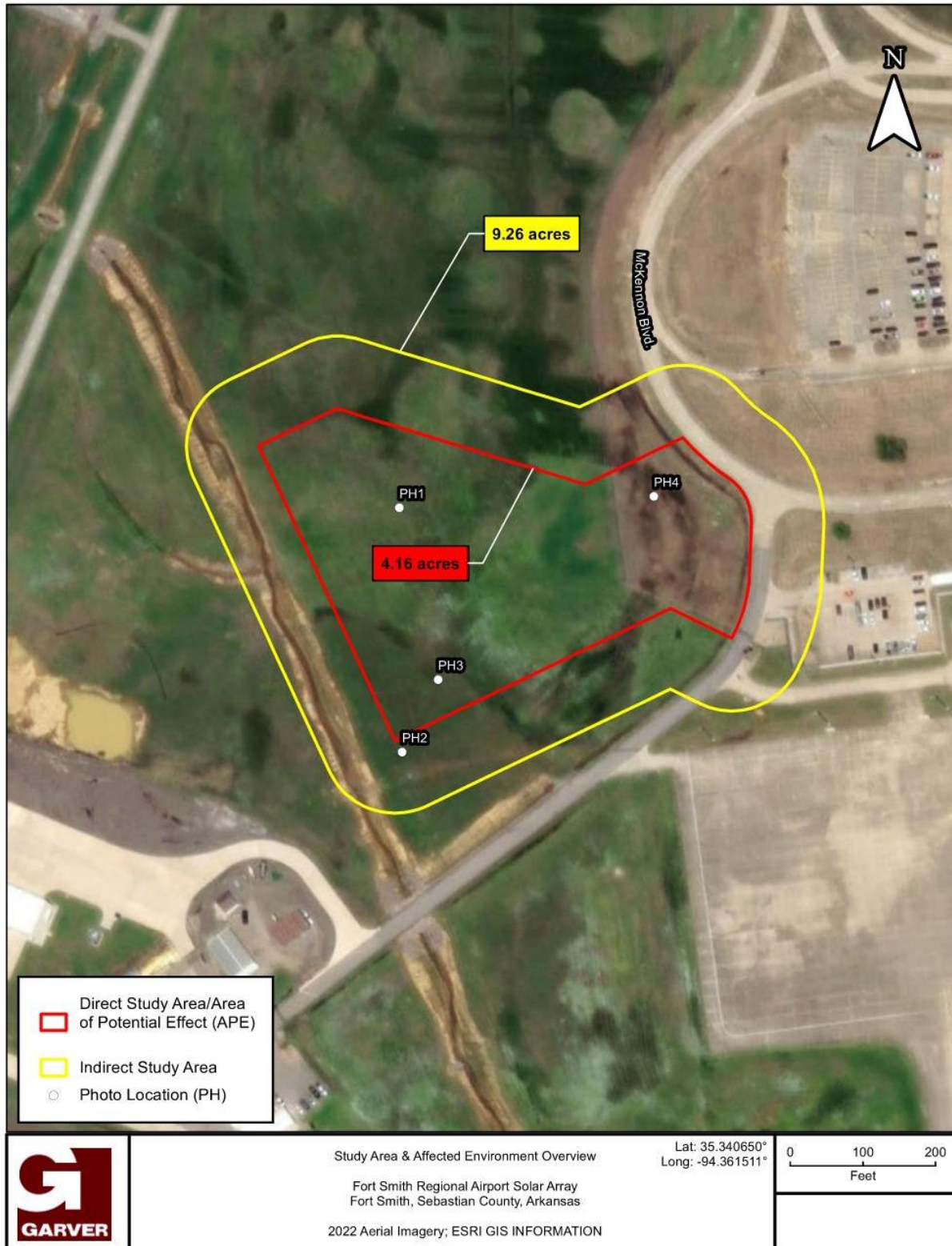
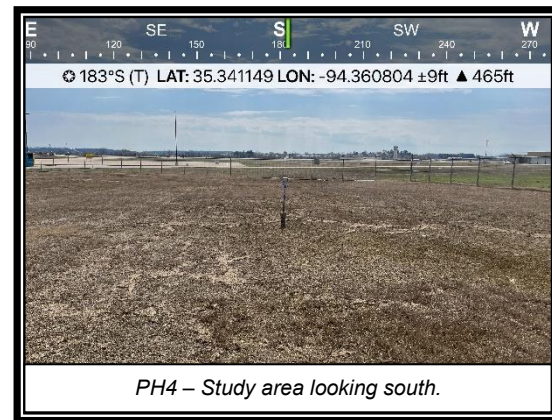
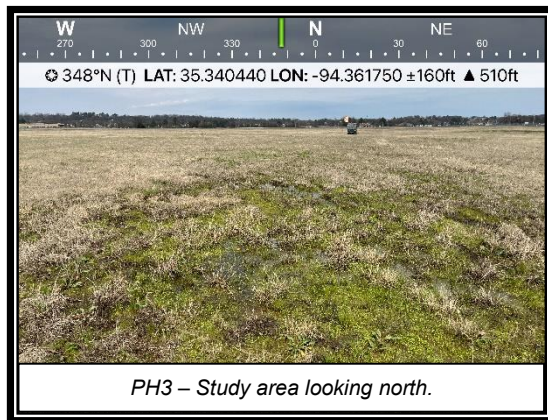
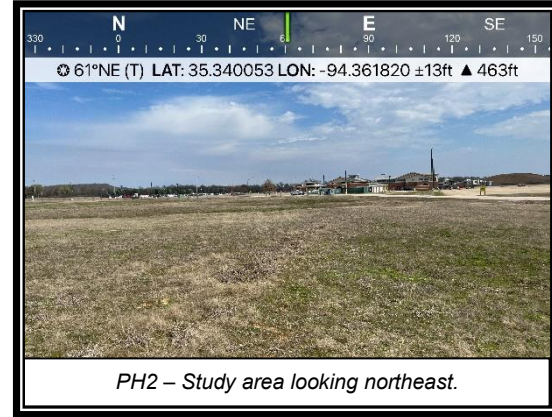


Figure 5 – Study Area and Affected Environment Overview

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4.3 Impact Assessment

Assessing impacts also includes documenting agency comments and concerns regarding agency-managed resources that may be affected by the project. In June 2023, letters were sent to applicable local, state, and federal agencies to assess the level of environmental consequences based on the purpose and need of the project.

This section describes the existing natural and social environmental resources that could be affected by or could affect the Proposed Action or the No Action Alternative. Only those specific resources relevant to potential impacts are described in detail. Resources potentially impacted by the Proposed Action and the No Action Alternatives are evaluated in this section in accordance with FAA Order 1050.1F. **Appendix C** contains agency correspondence.

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Environmental resources that are not impacted by the Proposed Action are not described in detail in this EA or discussed further as a result of no impact determinations. The Proposed Action and No Action Alternative would not affect:

- Coastal resources
- DOT Section 4(f)
- Farmlands
- Land use
- Socioeconomics
- Environmental Justice
- Floodplains
- Groundwater
- Wild and scenic rivers

4.4 Air Quality

4.4.1 Affected Environment

The U.S. Environmental Protection Agency (EPA) developed the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) for the six most common air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_x), ozone, particulate matter (PM), sulfur dioxide, and lead. These pollutants are regulated by the EPA through human health-based (primary standards) and environmental-based (secondary standards) criteria. The NAAQS are applicable to all areas of the United States. Areas of the United States with poor air quality that have ambient concentrations of these criteria pollutants above the NAAQS are designated as “nonattainment areas”. EPA does not currently list Sebastian County as an area of nonattainment or maintenance for NAAQS.

EPA air quality monitoring occurs in the region in Sebastian County. Based on the Division of Environmental Quality (DEQ) Ambient Air Monitoring Network, SLAMS report average of 2019-2021 data, the ambient air quality monitoring station in Roland, Oklahoma indicated 65.8 annual μm^3 of PM_{2.5} and 1,097 tons/year of SO₂ emissions.

Meteorological conditions and trends in Sebastian County indicate that annual rainfall has increased over 15 inches between 1900 and 2023 with an average of 46.5 inches. Average temperatures in the same span of years indicate an increase of 1.5° Fahrenheit (F) with average temperature of 60.5°F (USA FACTS, 2023). Topographically, the study area is relatively flat and slightly undulating. The land around the airport has rolling hills and pastures and is predominantly developed. These factors would not significantly influence the dispersal of emissions in the study area.

4.4.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not directly or indirectly impact air quality as there would be no construction activities.

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Proposed Action

- Direct Impacts

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for air quality. A significant impact would occur if the Proposed Action would cause pollutant concentrations to exceed one or more of the NAAQS or if it were to increase the frequency or severity of any such existing violations. The Proposed Action does not affect future aircraft activity, changes in runway use patterns, aircraft taxi times, or operational effects from ground access vehicles; therefore, no aircraft or surface transportation emissions are expected to rise to the level of significance. Temporary increases in emissions resulting from construction activities may occur for a limited period of time at the project site and in the immediately adjacent areas.

- Indirect Impacts

Indirect effects on air quality on and around the airport are anticipated to be based on projected growth in the region and are associated with construction. Reviewing overall air quality data that is continually monitored by the DEQ was conducted and the closest ambient air quality measurement station for any of the criteria air pollutants is in Roland, Oklahoma for PM_{2.5}, and SO₂.

- Mitigation and Best Management Practices (BMPs)

Air quality effects resulting from the implementation of the Proposed Action or No Action Alternative are anticipated to be below threshold levels of significance. No mitigation measures are proposed because air quality thresholds are not anticipated to be exceeded due to construction.

4.5 Biological Resources

4.5.1 Affected Environment

The study area contains a routinely mowed and maintained field area with poorly-drained soils containing a mixture of upland and wetland herbaceous grasses and forbs in a non-aviation use reserve area. Overall, the ground disturbance study area provides limited biotic resources.

Fish

No fishery resources or fish species were identified in the study.

Wildlife

The presence of wildlife within the security fence is likely diminished by the limited, monocultural and routinely manicured nature of the Proposed Action area presenting a lack of available, suitable habitats for many terrestrial species. The approximately 4.2-acre area consists of an estimated 0.49 acres of herbaceous wetland and 3.67 acres of maintained upland grassland.

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Refer to **Figure 6** for an overview of the habitats mapped within the study area. Wildlife which could be expected in the area include small mammals, birds, reptiles, amphibians, and terrestrial invertebrates.

The indirect study area for assessing the affected environment of wildlife species considers lighting effects that reach farther out from the airport. Available wildlife habitat around the airport is also fragmented due to residential, commercial, and industrial developments.

Plants

The study area contains predominantly herbaceous vegetation. Dominant upland vegetation consisted of Virginia buttonweed (*Diodia virginiana*), Broomsedge (*Andropogon virginicus*), Bermudagrass (*Cynodon dactylon*), and marsh bristlegrass (*Setaria parviflora*). Dominant wetland vegetation observed included sedges (*Carex* species), bushy bluestem (*Andropogon glomeratus*), hairy buttercup (*Ranunculus sardous*), and marsh bristle grass.

The Arkansas Natural Heritage Commission (ANHC) was contacted regarding the occurrence of rare plants, outstanding natural communities, and other elements of special concern. ANHC indicated no records at the present time within their databases.

Federal and State Listed Species

The United States Department of the Interior, Fish and Wildlife Service (USFWS), Arkansas Ecological Services Field Office was consulted early during the development of this document. Agency responses are located in **Appendix C**. The USFWS Information for Planning and Consultation (IPaC) on-line tool was used to identify potential habitat for six federally listed endangered and threatened species, one proposed endangered species, and one candidate species that may occur in or pass through the study area within Sebastian County and listed in **Table 2**. No critical habitats were identified within or near the study area. The study area for Biological Resources is the study area as shown in **Figure 6**, which also identifies suitable habitats.

The ANHC was contacted to identify the location of any known records for state species of concern within their Natural Diversity Database. Currently there are no state laws that protect state-listed species in Arkansas. Only animal species identified as State Endangered are provided protection under the Arkansas Game and Fish Commission regulations (AGFC) *Regulation P1.01 Endangered Species List – Animals*, as adopted under Amendment 35 of the Constitution of the State of Arkansas. State listed plant species currently do not have the same protecting regulations. ANHC indicated no records at the present time within their databases but did note that one state species of concern (Osage Burrowing Crayfish) has been located within a one-mile radius of the study area. Many state-listed species have a status of “inventory element”, which indicates the ANHC is conducting active inventory work on the species. Detailed habitat descriptions for two state-threatened and two endangered species within Sebastian County are given in **Table 3**. Detailed habitats were not described for species with inventory element status. Coordination with ANHC is provided in **Appendix C** and species lists are provided in **Appendix D**.

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Figure 6 – Habitat Overview

Table 2 – Federally Listed Species

Species*	Habitat Requirements	Habitat Present Within Ground Disturbance Study Area
Northern Long-eared Bat (<i>Myotis septentrionalis</i>) Endangered	In winter, Northern Long-eared bats use caves, mine portals, abandoned tunnels, protected sites along cliff lines and similar situations that afford protection from cold. They are easily overlooked as they often wedge themselves back into wall cracks.	No suitable habitat is present within the study area. The project will have a “no effect” determination on the NLEB.
Indiana Bat (<i>Myotis sodalis</i>) Endangered	The Indiana bat hibernates in cool caves and mines in the winter and wooded areas in the spring and summer. During summer, colonies are found beneath slabs of exfoliated bark of dead trees, often in bottomland or floodplain habitats, but also in upland situations.	No suitable habitat is present within the study area. The project will have a “no effect” determination on the Indiana bat.
Eastern Black Rail (<i>Laterallus jamaicensis ssp. Jamaicensis</i>) Threatened	Eastern black rail habitat can be tidally or non-tidally influenced, and range in salinity from salt to brackish to fresh. Tidal height and volume vary greatly between the Atlantic and Gulf coasts and therefore contribute to differences in salt marsh cover plants in the bird's habitat.	The on-site emergent wetlands are routinely mowed and therefore do not contain suitably dense vegetative cover within the study area. The Eastern black rail is likely a vagrant in Arkansas. The project will not likely adversely affect the eastern black rail.
Piping Plover (<i>Charadrius melodus</i>) Threatened	Migratory stopover habitat includes sparsely vegetated sandy or gravelly shorelines and islands associated with the major river systems.	No sandbars, salt flats or mudflats are located within or adjacent to the study area. The project will not likely adversely affect the piping plover.
Alligator Snapping Turtle (<i>Macrochelys temminckii</i>) Proposed Threatened	Alligator snapping turtles inhabit medium to large slow-moving rivers or associated lakes, sloughs, or oxbows, and occur in high gradient clear streams. They will sometimes in habitat tributaries or ponds with a nexus to forementioned rivers.	No medium to large slow-moving rivers or associated aquatic resources are in or adjacent to the study area. Not likely to jeopardize the continued existence.
Red Knot (<i>Calidris canutus rufa</i>) Threatened	Breeds on tundra; Migratory stopover habitat include mudflats on reservoirs, tidal flats, shores and beaches of reservoirs and coastal areas.	No mudflats or drawn down lakes are located within or adjacent to the study area. The project will have no effect on the red knot.
American Burying Beetle** (ABB) (<i>Nicrophorus americanus</i>) Threatened	Utilizes undisturbed, mature oak-hickory forests with substantial litter layers and deep, loose soils, grasslands or bottomland forests. Carrion feeder.	Suitable grassland habitat is within the study area. The Proposed Action has a “may affect” determination for the ABB. Approximately 3.67 acres of native perennial vegetation occurs within the study area.
Monarch Butterfly (<i>Danaus plexippus</i>) Candidate	Monarch butterflies require the presence of milkweed (<i>Asclepias</i> sp.), flowering or potentially flowering nectar plants (defined as forbs that can provide nectar for monarchs at some point in the growing season), and additional native habitat such as meadows, prairies, and grasslands.	Potentially suitable habitat (flowering nectar plants) is possible within the study area, but marginal due to routine mowing. No milkweed species were observed within the study area.

*USFWS IPaC Official Species List, March and April, 2023. **Also identified by ANHC as State Endangered.

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Table 3 – State Listed Species

Species*	Habitat Requirements	Habitat Present Within Ground Disturbance Study Area
Geocarpon (<i>Geocarpon minimum</i>) State Threatened	Geocarpon prefers eroded areas in grasslands called "slicks" or "slickspots." Bare soil over sandstone, slicks are high in salinity and may be the remains of ancient Pleistocene lake beds.	No bare soil over sandstone with high salinity are located within the study area.
Opaque prairie sedge (<i>Carex opaca</i>) State Endangered	Low areas of prairies, roadside ditches, and poorly drained sites.	Approximately 0.49 acres of emergent wetland habitat is located within the study area.
Maple-leaf oak (<i>Quercus acerifolia</i>) State Threatened	Maple-leaf oak is a rare species that is only known to grow in the wild in a few upland forest areas in the Ouachita mountains of west central Arkansas. It is a medium-sized deciduous tree of the Red Oak group.	No suitable habitat was observed within the study area.
Little Brown Bat (<i>Myotis lucifugus</i>) State Endangered	The Little Brown Bat hibernates in caves and mines in the winter. They can be found in trees, artificial structures, under rocks, and piles of wood in the summer. Foraging occurs over streams and other bodies of water and along margins of lakes.	No suitable habitat is present within the study area.

*State listed species in Sebastian County. Arkansas Natural Heritage Commission, June 2023.

4.5.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not directly or indirectly impact fish, wildlife, or plant species within the study area.

Proposed Action

- Direct Impacts

Direct impacts to approximately 4.2 acres of herbaceous vegetation will decrease available habitat for bird, reptile, and mammal species. **Table 4** provides information on impact quantities for each Federal and state listed species. Vegetation removal is consistent with the airport's Wildlife Hazard Management Plan (WHMP) in removing potential hazardous wildlife attractants (i.e., wetlands) on the airport in accordance with AC 150/5500-33C.

Table 4 – Habitat Impact Summary of Federal and State Listed Species

Species	Acres of Suitable Habitat Present within Ground Disturbance Study Area	Acres of Impact for Proposed Action
Northern Long-eared Bat*	0	0
Indiana Bat*	0	0
Tricolored Bat	0	0
Eastern Black Rail*	0	0
Piping Plover*	0	0
Red Knot*	0	0

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Species	Acres of Suitable Habitat Present within Ground Disturbance Study Area	Acres of Impact for Proposed Action
American Burying Beetle*	3.67	3.67
Alligator Snapping Turtle	0	0
Monarch Butterfly	0	0
Little Brown Bat	0	0
Opaque prairie sedge	0.49	0.49

*Federally listed threatened or endangered species.

Informal Section 7 consultation was completed for these species on April 7, 2023. The Proposed Action would have a no effect determination for the Indiana bat and Northern Long-eared bat, and a not likely to adversely effect determination for the Eastern Black Rail, Piping Plover, and the Red Knot. The Proposed Action would have a May Affect determination for the ABB. Approximately 3.67 acres of suitable ABB habitat would be disturbed by the Proposed Action and is shown on **Figure 6**. This project complies with the final 4(d) rule with incidental take covered by the USFWS's October 15, 2020, Intra-Service Programmatic Biological Opinion on the final 4(d) rule for the ABB addressing "Activities Excepted from Take Prohibitions" and complies with Section 7(a)(2) with respect to the ABB. No further consultation is required for the Proposed Action for this species. USFWS concurred with these determinations, and therefore no further consultation is required. The Proposed Action would not jeopardize the continued existence of the Alligator Snapping Turtle or Monarch Butterfly. Refer to **Appendix C** for USFWS coordination and **Appendix D** for a list of federally listed species.

- Indirect Impacts

No indirect impacts are anticipated concerning federally or state listed threatened and endangered species. Much of the surrounding land contains fragmented wildlife habitat, and thus, indirect effects on area wildlife are anticipated to be minimal.

- Mitigation and BMPs

Best Management Practices (BMPs) will be installed prior to construction and maintained in accordance with the Airport's Industrial Stormwater Pollution Prevention Plan (SWPPP) per National Pollutant Discharge Elimination System (NPDES) regulations, and in compliance with the anticipated Section 404, 401, and 402 permits. A construction SWPPP will be required prior to construction. No wildlife-specific mitigation is proposed.

4.6 Climate

Climate is addressed in this separate section of the EA per Order 1050.1F and Desk Reference. According to FAA guidance, the EPA data indicates that the aviation industry contributes 4.1% of the world's greenhouse gas (GHG) emissions. The Council on Environmental Quality (CEQ) developed guidance on reporting GHG emissions and NEPA guidance. However, FAA has not identified significance thresholds. The U.S. Aviation Climate Goal (United States Aviation Climate Action Plan, 2021) has established a goal of achieving net-zero greenhouse gas (GHG) emissions by 2050. These GHGs include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons,

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perfluorocarbons, and sulfur hexafluoride. Emissions primarily result from anthropogenic sources predominantly from the combustion of fossil fuels. Energy consumption also contributes to GHG production. Per guidance provided in EO 13990, the depth of the GHG analysis is proportional to the project.

4.6.1 Affected Environment

The study area for evaluating GHG is considered the Fort Smith area surrounding the airport. The Proposed Action would consist of a new solar array and does not include changes in landside or airside operations that would be anticipated to influence climate impacts.

4.6.2 Environmental Consequences

No Action Alternative

Since the No Action Alternative does not involve construction activities, no Climate impacts would be expected to occur.

Proposed Action

- Direct Impacts

According to Exhibit 4-1 of FAA Order 1050.1F, the FAA has not established a significance threshold for Climate. Based on only a temporary influence on GHGs during construction, no significant environmental impacts are expected concerning climate. The Proposed Action will reduce electricity costs by 83 percent and annual electricity usage required by the electric utility provider by 89 percent (Entegriy Solar, 2022) causing a decrease in GHG emissions associated with electricity production. The Proposed Action is not expected to exacerbate issues related to flooding, erosion, or temperature increase.

- Indirect Impacts

As there are no significant direct environmental impacts expected concerning climate, indirect impacts are not anticipated.

- Mitigation and BMPs

No mitigation or BMPs are proposed as no direct or indirect climate impacts are anticipated.

4.7 Hazardous Materials, Solid Waste, and Pollution Prevention

The study area was assessed for the presence of hazardous materials. The Proposed Action would not include generation of hazardous waste or the use of fuel storage tanks. Federal, state, and/or local statutes and regulations may apply.

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4.7.1 Affected Environment

Hazardous Materials and Solid Waste

The Arkansas Division of Environmental Quality's EnviroView tool and the Environmental Protection Agency's NEPAAssist tool was used to identify the location of any Superfund sites, hazardous waste generator facilities, or solid waste sites within or near the study area. No sites related to hazardous wastes were identified within the study area.

Pollution Prevention

The airport accomplishes pollution prevention through the implementation of a site-specific industrial SWPPP and individual NPDES permit. The airport's individual NPDES permit and SWPPP have identified several potential pollution sources, some of which occur near the study area.

4.7.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no impacts to hazardous materials, solid waste, or hazardous waste are expected to occur. The Airport would continue to operate its facilities in compliance with the same regulations associated with transport, storage, and use of existing hazardous materials as it does today. No increase in stormwater runoff or pollution would be expected by the No Action Alternative.

Proposed Action

- **Direct Impacts**

The Proposed Action would have no direct impacts to known hazardous materials, solid waste, or hazardous waste sites. No outfall modifications would occur as a result of the Proposed Action; however, solar array improvements will be designed so that the post-development flow is less than or equal to the pre-development flow.

Short-term and temporary impacts may occur as a result of construction activities for the Proposed Action and include the temporary increase of petroleum fuels on-site that are utilized by construction equipment.

During construction grading activities associated with the Proposed Action, the primary potential pollutant is sediment and silt entering storm water and receiving waters at the airport. This could affect biotic communities on airport property or downstream of the airport.

- **Indirect Impacts**

Indirect impacts on the water quality of downstream environments are discussed in subsequent sections of this document.

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- Mitigation and BMPs

Prior to initiating construction activities associated with the Proposed Action, the Airport will obtain permit coverage for construction activities from DEQ. General construction BMPs including silt fences, check dams, herbaceous buffers, and other controls as appropriate will be incorporated into construction plans to help prevent erosion and protect water quality in compliance with local erosion and sediment control regulations. Construction BMPs for the Proposed Action will include designating specific areas for construction equipment staging, maintenance, and fueling. These areas will be designed to provide appropriate secondary containment and other control measures to avoid and/or minimize potential, inadvertent, releases of fuels, oils, and other contaminants to stormwater, soil, and groundwater within the project area. Wastes associated with construction and operations at the site will be handled in accordance with the Solid and Hazardous Waste Rules and Regulations of the state. This includes all materials that would be classified as solid and/or hazardous wastes. Any temporary fuel tanks or the temporary storage of other regulated materials will comply with federal, state, and local regulations.

If any hazardous materials are encountered on the site during excavation, they will be appropriately identified and properly disposed of in accordance with applicable regulations.

As required by the CWA Section 402 NPDES permitting process, a SWPPP for the Proposed Action will be developed and implemented. General construction BMPs (including silt fences, check dams, and other controls as appropriate) will be incorporated into construction plans to help prevent erosion, protect water quality, and ultimately minimize potential impacts to surface water resulting from stormwater runoff. In addition, BMPs will require measures to prevent or minimize the potential release of contaminants into surface waters, provide swift response to accidental spills, and define acceptable on-site storage of fuel and lubricants.

4.8 Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act of 1966 requires that an initial review be made to determine if any properties are on, or eligible for inclusion in, the National Register of Historic Places (NRHP). In accordance with 40 CFR 1507.2 and Section 106 of the National Historic Preservation Act, and FAA Order 1050.1E the FAA initiated consultation pursuant to Section 106 with the State Historic Preservation Officer (SHPO) and Tribes. SHPO was consulted on May 5 and June 28, 2023, and Tribes were consulted on July 27, 2023. Consultation letters and responses from commenting Tribes and SHPO are included in **Appendix C**. The following Tribes were consulted:

- Caddo Nation
- Cherokee Nation
- Choctaw Nation of Oklahoma
- Muscogee (Creek) Nation
- Osage Nation
- Shawnee Tribe
- Quapaw Nation
- Chickasaw Nation

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4.8.1 Affected Environment

The Project Area lies within the Arkansas Valley Plains subdivision of the Arkansas Valley ecoregion. Prior to the 19th century, uplands were dominated by a mix of forest, woodland, savanna, and prairie, whereas floodplains and lower terraces were covered by bottomland deciduous forest. Today, less rugged upland areas have been cleared for pastureland or hay land. Poultry and livestock farming are important land uses. The Atoka Formation of Pennsylvania age underlies the project area. The Atoka Formation is a sequence of marine, mostly tan to gray silty sandstones and grayish-black shales. Predominant soil types include silt loam and sandy loam.

The study area also serves as the Area of Potential Effect (APE) and contains slightly undulating level and low areas that contain emergent wetlands.

A review of the Arkansas Historic Preservation Program (AHPP) geographic information system National Register and Survey Database and the Automated Management of Archeological Site Data in Arkansas (AMASDA) database managed by the Arkansas Archeological Survey was conducted to identify the location of any historic properties, as defined by 36 CFR 800.16(l)(1), within or proximal to the Project Area. No sites were identified in close proximity.

4.8.2 Environmental Consequences

A Phase I Cultural Resources Survey (CRS) was conducted for the direct APE where ground disturbance is proposed. No historic or archaeological properties were identified within the direct APE and indirect APE. The nearest cultural resources site identified, is located approximately 1.0 mile from the indirect APE. On June 20, 2023, SHPO indicated there are no previously recorded archeological sites or historic properties within the APE and also noted that the airport is proximal, but not within, multiple Trail of Tears Corridors. On July 14, 2023, SHPO concurred with the finding of no historic properties affected pursuant to 36 CFR 800.4 (d)(1).

No Action Alternative

The No Action Alternative would not impact any historic or archaeological resources.

Proposed Action

- Direct Impacts

The Proposed Action will have no direct impacts to historic or archaeological sites listed on or eligible for listing on the NRHP. Consultation with the SHPO confirmed there are no historic properties affected due to direct impacts. A response letter was received from Ms. Kathryn Bryles, Section 106 reviewer with SHPO, dated June 20, 2023 (**Appendix C**). Correspondence indicated one previously recorded archeological site located within 1.0 mile the APE, but it will not be affected by this undertaking. Comments received from Tribal Historic Preservation Officers (THPO) and Tribal contacts indicated no concerns with the proposed project.

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- Indirect Impacts

As there are no direct impacts associated with the Proposed Action, no indirect impacts are anticipated. The Proposed Action meets the criteria for a finding of No Historic Properties Affected as per 36 CFR 800.4 (d)(1). No additional cultural resources investigations are recommended for the proposed Project Area according to SHPO regarding the indirect APE.

- Mitigation and BMPs

If construction work uncovers buried archeological materials, work will be halted in the area of discovery and SHPO and the FAA Project Manager will be immediately notified.

4.9 Natural Resources and Energy

This section provides an evaluation of the consumption of natural resources such as fuel, water, wood, asphalt, aggregate, and other construction material supplies as well as energy supply effects.

4.9.1 Affected Environment

Natural resources such as water, asphalt, and aggregate that would be utilized are located onsite and/or would be provided for the project from a clean authorized location. The study area is adjacent to electric utilities utilized by the terminal building.

4.9.2 Environmental Consequences

FAA Order 1050.1F Exhibit 4-1 shows that FAA has not established a significance threshold for this impact category. However, a factor to consider is if the action would have the potential to cause demand to exceed available or future supplies of these resources. Energy demand will be reduced on the electric utility provider for the airport terminal building.

No Action Alternative

The No Action Alternative would not change the future supply of natural resources or energy demands at the airport, continue its full dependence on the electric utility provider, and would not help the airport move toward net-zero emissions.

Proposed Action

- Direct Impacts

Decreases in energy demand on the local electric grid and electric utility provider are anticipated. Consumable materials (i.e., aggregate) required for construction of the base support of the solar array are not considered to be scarce.

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- Indirect Impact

Indirect effects associated with the Proposed Action are also anticipated to be met by local energy and utility providers as the population of the region increases.

4.10 Visual Effects

4.10.1 Light Emissions

4.10.1.1 Affected Environment

In accordance with FAA Order 1050.1F, Order 1050.1F Environmental Desk Reference, and Order 5050.4B, light emissions of the Proposed Action were evaluated to assess activities that could visually affect surrounding residents and other nearby light-sensitive areas. There are currently no special purpose laws or requirements for visual effects. In addition, solar energy systems introduce new visual surfaces to an airport setting that could cause glare to those that require a clear and unobstructed vision from the Airport Traffic Control Tower (ATCT) (FAA, 2018, Technical Guide for Evaluating Selected Solar Technologies on Airports) and to enhance safety by analyzing ocular impact of proposed solar energy systems on ATCT personnel (Federal Register, 2021). A glare analysis was conducted for the proposed action that included five flight path receptor locations located at the west and east approaches to Runway 8-26, north and south approaches to Runway 1-19 and one discrete observation point receptor located at the ATCT. The glare analysis was submitted to the Obstruction Evaluation / Airport Airspace Analysis (OEAAA) office of FAA.

4.10.1.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not change the existing visual character or have any additional light emission impacts.

Proposed Action

- Direct Impacts

The Proposed Action would produce additional light emissions associated with solar energy systems. However, results of the Glare Analysis (ForgeSolar, 2023) performed for the Proposed Action indicated no glare predicted at any receptor location, including the ATCT. The Obstruction Evaluation / Airport Airspace Analysis (OEAAA) responded on August 7, 2023 (see **Appendix C**) with their determination of no objections to the Proposed Action with respect to the safe and efficient use of navigable airspace with conditions listed below in this section.

The overall setting of the airfield would not change drastically. Temporary and additional safety lighting during construction is anticipated and will comply with design plans as developed.

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- Indirect Impacts

The Proposed Action light emissions are not anticipated to contribute substantially to the indirect nature of light emissions experienced surrounding the airport. The Proposed Action alone would not contribute to impacts to sensitive off-airport receptors, including wildlife species due to the already illuminated nature of the surrounding area.

- Mitigation and BMPs

Future lighting fixtures at the airport will comply with FAA standards in AC 150/5345-53 so as to not create adverse lighting conditions to aircraft and off-airport sensitive receptors. Proposed lighting and fixtures will be designed to current FAA and airport standards. OEAAA conditions include compliance with AC 150/5370-2 *Operational Safety on Airports During Construction*, Flight Standards has no objections, if the sky mirror poses a glare hazard or there is a complaint the Airport must mitigate the hazard, NAVAIDS are to be incorporated in compliance with AC 70/7460-1M *Obstruction Marking and Lighting*, and Notice to Air Missions (NOTAM) will be issued upon any lighting failure lasting more than 30 minutes.

4.10.2 Visual Resources and Character

4.10.2.1 Affected Environment

In accordance with FAA Order 1050.1F, Order 1050.1F Environmental Desk Reference, and Order 5050.4B, visual character of the Proposed Action was evaluated to assess activities that could visually affect nearby residential areas. There are currently no special purpose laws or requirements for visual effects. As mentioned previously, solar energy systems introduce new visual surfaces to an airport setting that could cause glare.

4.10.2.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not change the existing visual character of the airport or surrounding properties.

Proposed Action

- Direct Impacts

The Proposed Action would not produce additional light emissions but glare associated with solar energy systems. Although the visual landscape of the airport as viewed from the nearest residential receptor would change slightly, no impacts within the viewshed of the Proposed Action would occur as the project's visual resources will be compatible with the existing visual character of the study area. The overall setting of the airfield would not change drastically.

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- Indirect Impacts

The visual landscape as viewed looking toward the airport would not have a stark contrast to the visual character surrounding the airport.

- Mitigation and BMPs

As the Proposed Action is compatible with the visual character and resources within the study area, no mitigation is proposed.

4.11 Water Resources

4.11.1 Affected Environment

Water resources are surface waters and groundwater that are important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. The study area was assessed for the presence of any wetlands, surface water resources, floodplains, and groundwater resources as these components function in concert as a single integrated system. Federal statutes or executive orders provide the framework to regulate potential impacts to surface water, groundwater, and wetlands. The following provides a list of statutes, regulations and executive orders established to protect these resources:

- EO 11990, Protection of Wetlands.
- EO 11988, Floodplain management.
- EO 14030, Climate-Related Financial Risk.
- Fish and Wildlife Coordination Act (FWCA).
- Rivers and Harbors Act of 1899.
- The Clean Water Act.
 - Section 401 of the Clean Water Act (CWA) requires that for any federally permitted project that may result in a discharge into water of the United States, a water quality certification be issued to ensure that the discharge complies with applicable water quality requirements.
 - Section 402 forms the National Pollutant Discharge Elimination System (NPDES), which regulates pollutant discharges, including stormwater, into waters of the United States. NPDES permits set specific discharge limits for point-source pollutants and outline special conditions and requirements for projects to reduce water quality impacts. Permits require that projects be designed to protect waters of the United States. Construction projects that will disturb more than one acre of land must comply with the requirements of the NPDES.
 - Section 404 regulates discharges of dredged or fill materials from construction activities into waters of the United States, including wetlands. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States.

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These statutes prevent/minimize the loss of wetlands, control discharges and pollution sources, establish water quality standards, protect drinking water systems, and protect aquifers and other sensitive ecological areas. There are wetlands but no surface waters present within the study area.

Wetlands

Two emergent wetlands, Wetland 1 and Wetland 2, were identified within the study area and shown on **Figure 7** and figures in **Appendix E**. Stormwater draining from the study area is conveyed to the southeast to a roadside ditch, thence to a channelized unnamed tributary. Both wetlands contained hydric soils consisting of a depleted matrix. Hydrology indicators for both wetlands was identified by the presence of a high-water table, poor hydrologic relief, and poorly drained soils. The nearby tributary likely does not influence hydrology of these wetlands. Vegetation was mowed and lacked natural diversity. Dominant vegetation observed included bushy bluestem (*Andropogon glomeratus*), hairy buttercup (*Ranunculus sardous*), marsh bristle grass (*Setaria parviflora*), and flatsedge (*Cyperus* sp.). Wetland 2 is identified as a roadside ditch which drains from Wetland 1 to a channelized stream to the southwest. A total of 0.49 acres of wetlands are considered jurisdictional by the U.S. Army Corps of Engineers (USACE) due to their surface water connection to an unnamed tributary to Massard Creek, a U.S. Geological Survey (USGS) mapped perennial stream. USACE correspondence is located in **Appendix C**.

Floodplains

No FEMA-mapped 500-year or 100-year floodplains or floodways are present within the study area. The closest 100-year (Zone A) floodplain is located approximately 80 feet south of the study area and is associated with an unnamed tributary of Massard Creek.

Groundwater

The study area is underlain by the Pennsylvanian aged McAlester Formation. The McAlester Formation is predominately dark gray to grayish-black shale and contains minor amounts of medium-gray siltstone and light-to medium gray very silty fine-grained sandstone to light gray very fine-grained sandstone (Haley and Hendricks, 1968). No public water supplies or sole source aquifers were identified in the study area. The study area was noted to exhibit a high-water table at the time of the wetland delineation and is the primary source of wetland hydrology in this area.

4.11.2 Environmental Consequences**No Action Alternative**

No impacts to wetlands, surface waters, downstream floodplains, or groundwater will occur as a result of the No Action Alternative.

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Proposed Action

Surface Water

- Direct Impacts

No direct impacts are anticipated to surface waters as none are present within or adjacent to the study area.

- Indirect Impacts

Temporary indirect impacts could affect downstream portions of an unnamed tributary to Massard Creek if sediment-laden water resulting from erosion during grading activities traveled off-site during construction. The Proposed Action will not alter the airport's current drainage system or change outfall locations. No other construction-related impacts to groundwater are anticipated as a result of the Proposed Action.

Wetlands

- Direct Impacts

The Proposed Action is anticipated to fill approximately 0.49 acres of emergent wetlands within the direct study area as identified in **Table 5**. Potential impacts to water quality resulting from stormwater runoff during construction were also assessed. Temporary, short-term impacts to surface waters within the disturbed areas may occur from stormwater runoff during construction. These impacts, which may occur as a result of increased sedimentation and siltation resulting from land disturbance, may temporarily decrease water quality. However, these impacts are not anticipated to be significant as BMP measures and provisions and specifications of FAA Advisory Circular 150/5370-10F *Standards for Specifying Construction of Airports* will be implemented to avoid and/or minimize adverse construction activities. The appropriate Section 401 water quality certification shall be obtained in conjunction with the required Section 404 permit. No other construction-related impacts to wetlands are anticipated as a result of the Proposed Action.

Table 5 – Wetland Impacts Summary

Feature No.	Cowardin Classification*	Acreage within Study Area	Acreage Impacted
W-1	PEM1E	0.45	0.45
W-2	PEM1Er	0.04	0.04
TOTALS:		0.49 acres	0.49 acres

*Federal Geographic Data Committee's 2013 *Classification of Deepwater Habitats of the United States*.

- Indirect Impacts

Indirect impacts to wetlands outside of the project area are not anticipated as groundwater will continue to be the primary hydrology supply for these wetlands. Additionally, the Proposed Action will not impede the overland stormwater flow from the off-site wetlands to the unnamed tributary to the west.

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Groundwater

- Direct Impacts

The Proposed Action is not expected to directly impact any public drinking water supplies, public water supply wells, or groundwater resources.

- Indirect Impacts

Indirect impacts to groundwater are not anticipated, as no direct impacts to groundwater sources have been identified. The Proposed Action would have a negligible effect on recharge. Construction of the solar PV array would not reduce the amount of recharge area to the underlying aquifer. Decreases in surface water quality may not necessarily result in groundwater impact. Additionally, the implementation of local, state, and federal regulatory programs to protect water quality will help prevent and/or reduce potential impacts.

- Mitigation and BMPs

Surface Waters and Wetlands

The Proposed Action will be subject to regulatory programs such as Sections 401 and 404 of the CWA, which protect surface waters by requiring improvements to meet water quality standards. Additionally, as the Proposed Action cannot fully avoid alterations to waters, comprehensive mitigation to provide replacement of lost aquatic resource benefits will be required. To mitigate for wetland loss, FSM proposes to purchase 3.77 wetland credits from a USACE-approved compensatory mitigation bank within the primary service area, or 5.66 wetland credits from an approved and operating mitigation bank servicing the secondary service area as determined by the USACE. It is anticipated that all wetland impacts can be mitigated and therefore would not be considered significantly adverse. Wetland credit calculations were provided with the Section 404 permitting package submitted to the USACE by on September 29, 2023 and confirmed with the issuance of the Section 404 Nationwide permit 51 received on October 3, 2023 (refer to **Appendix F**). The appropriate Section 401 water quality certification is issued with the Nationwide permit.

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Figure 7 – Wetland Delineation Overview

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Floodplains

There are no floodplains located within the Proposed Action study area as shown in **Figure 8**. Overall, the project will be designed to minimize adverse impacts to the downstream floodplain's natural and beneficial values.

In accordance with EO 14030, the Proposed Action was evaluated using the Federal Flood Risk Management Standard (FFRMS). FFRMS guidance provides three methods for determining floodplain impacts: Climate Informed Science Approach, Freeboard Value Approach (FVA), and 500-year floodplain. The Proposed Action was evaluated using the FVA approach, which includes reviewing the base flood elevation (BFE) plus adding two feet of freeboard for non-critical actions. The Proposed Action is not considered a critical action by FAA. The closest 100-year BFE is approximately 2,900 feet downstream (east of the terminal building) of the Proposed Action and has an elevation of 432.3 feet. Elevations recorded at six points within the study area via LIDAR with 8-inch vertical accuracy indicated the Proposed Action is 4.3 feet higher than the BFE at a minimum; therefore, no floodplain impacts will occur.

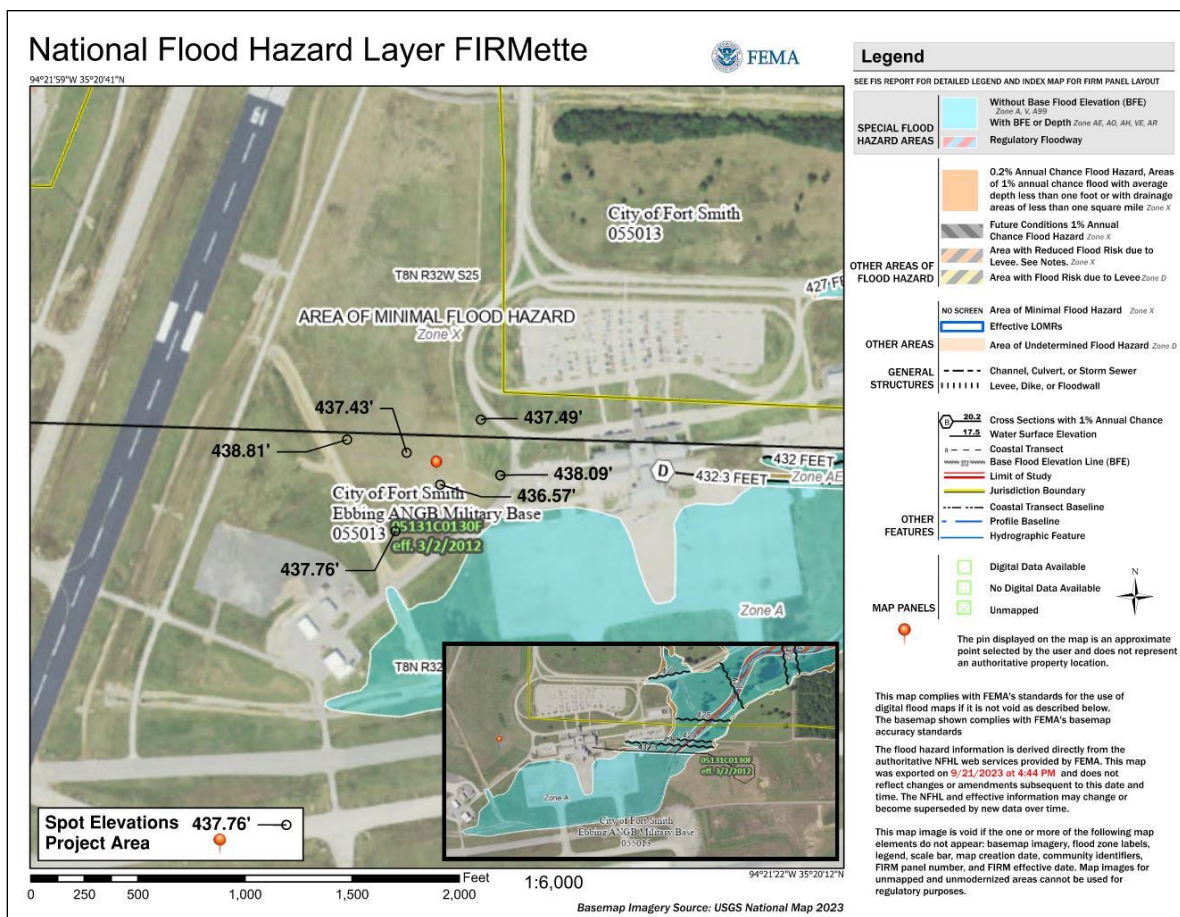


Figure 8 – Floodplains Overview

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5.0 Scoping and Public Involvement

5.1 Section Overview

This section explains the steps taken to correspond with agencies, Tribes, and the public during the completion of this EA. A list of agencies and Tribes that were contacted is included in **Section 5.2** and the public notification process is provided in **Section 5.3**. In June and July 2023, scoping letters were sent to applicable local, state, and federal agencies and Tribes to assess the level of environmental consequences based on the purpose and need of the project.

5.2 Agency Scoping

The intent of the agency and Tribal coordination is to solicit input early in the process regarding potential environmental, cultural, and archeological resources which could be impacted by the Proposed Action. The below-listed agencies and Native American Tribes were consulted during the preparation of this EA. All agency coordination is provided in **Appendix C**.

Agencies Consulted and Dates of Consultation:

- Arkansas Historic Preservation Program (AHPP) – Responses received June 20 and July 14, 2023
- U.S. Army Corps of Engineers (USACE) – Initial response received July 7, 2023. Preliminary Jurisdictional Determination received July 20, 2023. Section 404 Nationwide permit received on October 3, 2023.
- U.S. Fish and Wildlife Service (USFWS) – Response received June 16, 2023
- Arkansas Natural Heritage Commission (ANHC) – Response received June 16, 2023

Tribes Consulted (Initial Tribal Consultation occurred July 27, 2023):

- Caddo Nation – Response received July 28, 2023
- Cherokee Nation – Response received August 21, 2023
- Choctaw Nation of Oklahoma
- Muscogee (Creek) Nation
- Osage Nation – Response received September 7, 2023
- Shawnee Tribe
- Quapaw Nation – CRS submitted August 8, 2023
- Chickasaw Nation

5.3 Environmental Assessment Public Notification and Distribution

The draft Environmental Assessment was completed in September 2023 and was prepared for public review and comment prior to advertising a notice of opportunity to request a Public Hearing. On October 20, 2023, the Airport opened the public comment period by placing advertisements on their website (flyfsm.com) and in the Southwest Times Record, a newspaper of general circulation throughout Fort Smith and Sebastian County, Arkansas. A copy of the advertisement and affidavit of publication are included in **Appendix G**. Hardcopies of the draft EA were made

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available for the public to review until November 19, 2023, at the Airport Terminal Building. Opportunities were provided to the public to respond to the EA via letter, email, website comment response, or by telephone. No comments were received.

6.0 Mitigation and Commitments

- The airport will comply with all applicable federal, state, and local development regulations, Executive Orders, and permitting requirements.
- The airport will complete and maintain a construction Stormwater Pollution Prevention Plan throughout the duration of disturbance activities. BMPs such as silt fence, rolled fiber barriers, ditch checks, and other standard practices will be implemented according to the construction SWPPP and NPDES permit.
- Wetland mitigation is required for unavoidable impacts to 0.49 acre of emergent wetlands. Wetland mitigation in the amount of 3.77 credits from an approved and operating mitigation bank within the primary service area or 5.66 credits from an approved and operating mitigation bank within the secondary service area will be purchased by FSM prior to construction to compensate for these impacts through the Section 404 permit process.
- Conditions provided in the OEAAA response.
- Compliance with AC 150/5370-2 *Operational Safety on Airports During Construction*
- Compliance with Flight Standards
- If the sky mirror poses a glare hazard or there is a complaint the Airport must mitigate the hazard.
- NAVAIDS are to be incorporated in compliance with AC 70/7460-1M *Obstruction Marking and Lighting*
- Notice to Air Missions (NATOM) will be issued upon any lighting failure lasting more than 30 minutes.

7.0 Required Permits

- A NPDES construction stormwater discharge permit.
- A Section 404 Nationwide Permit has been obtained. See **Appendix F**.
- Blanket Section 401 water quality certification will be obtained at the time the Section 404 Nationwide permit is issued.

8.0 List of Preparers

The individuals listed in the below tables assisted in the preparation of this EA. Resumes of each are provided in **Appendix H**.

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Garver, LLC

Personnel	Degree	Years of Experience
Adam White	B.S. Civil Engineering	17
Ryan Mountain	B.S. Fisheries and Wildlife Management	24
Colby Marshall	B.S. Biology	12

Flat Earth Archeology

Personnel	Degree	Years of Experience
Chris Branam	A.B. D History Ph.D., M.A. Anthropology, B.A. Anthropology	24

9.0 References

Executive Order (EO) 11990, Protection of Wetlands. May 24, 1977. 42 FR 26961, 3 CFR, 1977 Comp., p. 121.

Executive Order (EO) 13990, Protecting Public Health and Environment and Restoring Science to Tackle the Climate Crises. January 20, 2021. Federal Register. Vol.86. No. 14.

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FAA. 2015. FAA Aviation Emissions and Air Quality Handbook. Version 3, Update 1. US Department of Transportation, Federal Aviation Administration Office of Environment and Energy.

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FAA. 2020. FAA 1050.1F Desk Reference. US Department of Transportation, Federal Aviation Administration Office of Environment and Energy.

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- FAA. 2018. Technical Guidance for Evaluating Selected Solar Technologies on Airports. Office of Airport Planning and Programming, Airport Planning and Environmental Division. Version 1.1.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.
- Federal Register. 2021. Federal Aviation Administration Policy: Review of Solar Energy System Projects on Federally-Obligated Projects.
- FR Vol. 86, No. 89, Tuesday, May 11, 2021, Rules and Regulations
- U.S. Census Bureau. 2021. Available online at <https://data.census.gov/cedsci/>.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2021. Web Soil Survey. Web. <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
- USGS. ESRI. 7.5 minute, 1:24,000 scale Fort Smith South, Arkansas. Topographic Quadrangle Map.
- USGS. ESRI. 7.5 minute, 1:24,000 scale Barling, Arkansas. Topographic Quadrangle Map.

APPENDIX A

Entegrity Solar Rate Analysis

entegrity solar

Prepared For
Fort Smith Airport
(479) 452-7000
info@flyfsm.com

Entegrity specializes in the development, engineering, construction, financing, operations and maintenance of high-quality solar projects. With the recent cost reductions in manufacturing, installation and equipment costs, solar photovoltaic (PV) systems are more cost effective than ever before. Entegrity is committed to delivering affordable and intelligent solar solutions to meet the sustainable goals of our clients.

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Fort Smith Airport TOU Rate Analysis w Rate Service Level Switch and 30% Direct Pay

Prepared By
Flint Richter
(479) 871 3029
flint.richter@entegritypartners.com

8/19/2022



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1 Project Summary

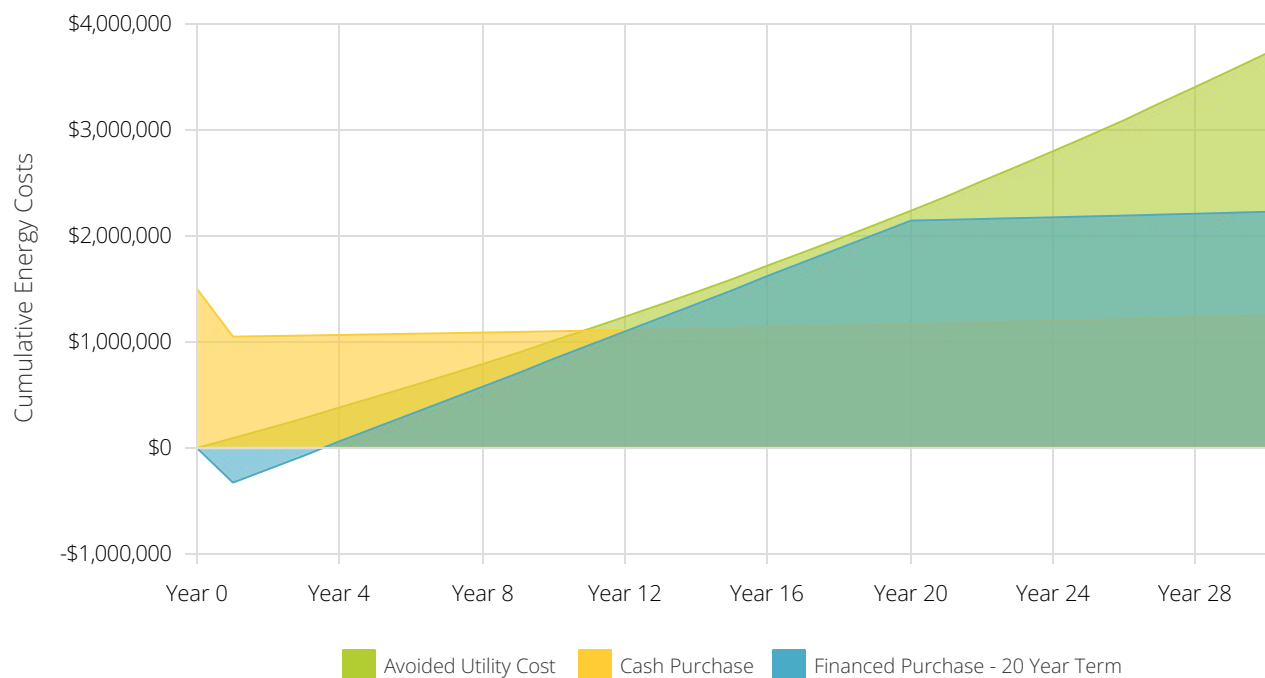
Payment Options	Cash Purchase	Financed Purchase - 20 Year Term
IRR - Term	8.9%	0.0%
LCOE PV Generation	\$0.025 /kWh	\$0.047 /kWh
Net Present Value	\$463,507	\$514,026
Total Payments	\$1,500,000	-
Total Incentives	\$450,000	\$450,000
Net Payments	\$1,050,000	\$2,026,394
Electric Bill Savings - Term	\$3,724,573	\$3,724,573
System Cost	\$1,500,000	-
Upfront Payment	-	\$0
Loan Term	-	20 Years
LCOE Before	-	\$0.095 /kWh
Return On Investment - Term	-	0.0%
Payback Period	-	0.0 Years

Combined Solar PV Rating

Power Rating: 864,000 W-DC

Power Rating: 737,078 W-AC-CEC

Energy Costs By Payment Option



2.1.1 PV System Details

General Information

Facility: Facility #1
Address: 6700 McKennon Blvd Fort Smith AR 72903

Solar PV Equipment Description

Solar Panels: (1920) First Solar FS-6450A-C
Inverters: (5) SMA Sunny Highpower PEAK3 125-US (2020)

Solar PV Equipment Typical Lifespan

Solar Panels: Greater than 30 Years
Inverters: 10 Years

Solar PV System Cost and Incentives

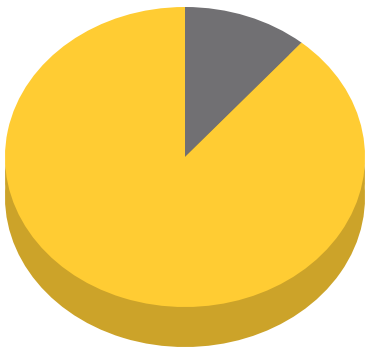
Solar PV System Cost	\$1,500,000
Direct pay - 30% ITC	-\$450,000
Net Solar PV System Cost	\$1,050,000

Solar PV System Rating

Power Rating: 864,000 W-DC
Power Rating: 737,078 W-AC-CEC

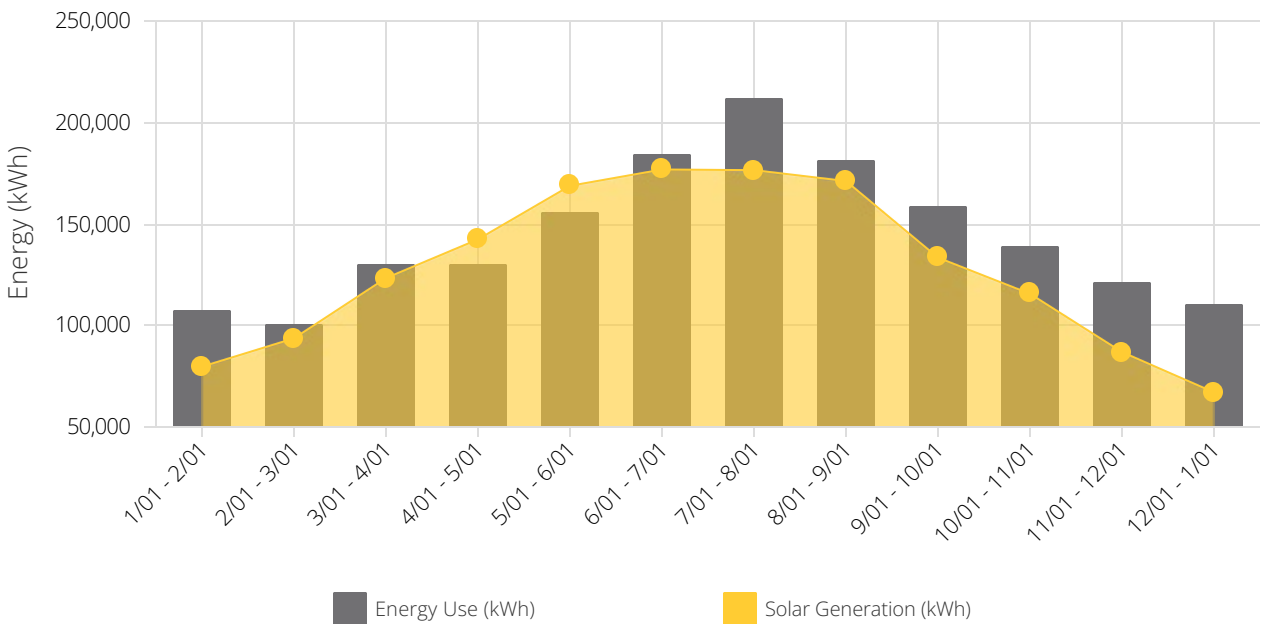
Energy Consumption Mix

Annual Energy Use: 1,729,297 kWh



Utility	193,843 kWh (11.21%)
Solar PV	1,535,454 kWh (88.79%)

Monthly Energy Use vs Solar Generation



2.1.2 Utility Rates

You have the option to remain on your current rate schedule (PL-TOU (Service Level: 5)) or switch to an alternative rate schedule (PL-TOU (Service Level: 2)). The rates for each are shown below and your estimated electric bills are shown on the following page for each rate schedule.

Customer Charges					Energy Charges					Demand Charges				
Season	Charge Type	Rate Type	PL-TOU, Service Level: 5	PL-TOU, Service Level: 2	Season	Charge Type	Rate Type	PL-TOU, Service Level: 5	PL-TOU, Service Level: 2	Season	Charge Type	Rate Type	PL-TOU, Service Level: 5	PL-TOU, Service Level: 2
S	Flat Rate per billing period		\$133.05	\$244.10	S	Flat Rate Import		\$0.00624	\$0.02397	S	Flat Rate Import		\$9.83	\$2.60
W	Flat Rate per billing period		\$133.05	\$244.10	W	Flat Rate Import		\$0.03515	\$0.04996	W	Flat Rate Import		\$9.83	\$7.38
					S	On Peak Import		\$0.12953	\$0.21296					
					S	Off Peak Import		\$0.02891	\$0.02599					

2.1.3 Current Electric Bill

The table below shows your annual electricity costs based on the most current utility rates and your previous 12 months of electrical usage.

Rate Schedule: OGE-AR - PL-TOU (Service Level: 5)

Time Periods	Energy Use (kWh)			Max Demand (kW)	Charges			
Bill Ranges & Seasons	Total	On Peak	Off Peak	NC / Max	Other	Energy	Demand	Total
1/1/2021 - 2/1/2021 W	107,443	-	-	204	\$133	\$3,776	\$2,006	\$5,915
2/1/2021 - 3/1/2021 W	100,662	-	-	223	\$133	\$3,538	\$2,193	\$5,864
3/1/2021 - 4/1/2021 W	130,055	-	-	259	\$133	\$4,571	\$2,547	\$7,251
4/1/2021 - 5/1/2021 W	129,668	-	-	266	\$133	\$4,557	\$2,616	\$7,306
5/1/2020 - 6/1/2020 W	155,896	-	-	324	\$133	\$5,479	\$3,186	\$8,798
6/1/2020 - 7/1/2020 S	184,015	31,956	152,059	408	\$133	\$9,683	\$4,012	\$13,828
7/1/2020 - 8/1/2020 S	211,888	37,755	174,133	425	\$133	\$11,246	\$4,180	\$15,559
8/1/2020 - 9/1/2020 S	181,200	27,855	153,345	369	\$133	\$9,171	\$3,629	\$12,933
9/1/2020 - 10/1/2020 S	158,453	25,911	132,542	304	\$133	\$8,176	\$2,990	\$11,299
10/1/2020 - 11/1/2020 S	138,841	22,471	116,370	292	\$133	\$7,141	\$2,872	\$10,145
11/1/2020 - 12/1/2020 W	121,009	-	-	251	\$133	\$4,253	\$2,468	\$6,854
12/1/2020 - 1/1/2021 W	110,167	-	-	227	\$133	\$3,872	\$2,232	\$6,237
Total	1,729,297	145,948	728,449	-	\$1,597	\$75,464	\$34,931	\$111,992

2.1.4 New Electric Bill

Rate Schedule Option 1: OGE-AR - PL-TOU (Service Level: 5)

Time Periods	Energy Use (kWh)			Max Demand (kW)	Charges			
Bill Ranges & Seasons	Total	On Peak	Off Peak	NC / Max	Other	Energy	Demand	Total
1/1/2021 - 2/1/2021 W	27,726	-	-	192	\$133	\$974	\$1,888	\$2,996
2/1/2021 - 3/1/2021 W	6,994	-	-	216	\$133	\$246	\$2,124	\$2,503
3/1/2021 - 4/1/2021 W	6,705	-	-	240	\$133	\$236	\$2,360	\$2,729
4/1/2021 - 5/1/2021 W	-12,758	-	-	258	\$133	\$448	\$2,537	\$2,222
5/1/2020 - 6/1/2020 W	-12,901	-	-	260	\$133	\$453	\$2,557	\$2,237
6/1/2020 - 7/1/2020 S	7,190	-20,267	27,457	311	\$133	\$1,787	\$3,058	\$1,405
7/1/2020 - 8/1/2020 S	35,362	-11,985	47,347	366	\$133	\$37	\$3,599	\$3,769
8/1/2020 - 9/1/2020 S	10,058	-20,477	30,534	305	\$133	\$1,707	\$2,999	\$1,426
9/1/2020 - 10/1/2020 S	25,036	-14,828	39,864	275	\$133	\$612	\$2,704	\$2,225
10/1/2020 - 11/1/2020 S	23,231	-11,002	34,234	263	\$133	\$291	\$2,586	\$2,429
11/1/2020 - 12/1/2020 W	34,095	-	-	251	\$133	\$1,198	\$2,468	\$3,800
12/1/2020 - 1/1/2021 W	43,106	-	-	206	\$133	\$1,515	\$2,026	\$3,674
Total	193,844	-78,559	179,436	-	\$1,597	-	\$30,909	\$32,506

New Rate Schedule Option 2: OGE-AR - PL-TOU (Service Level: 2)

Time Periods	Energy Use (kWh)			Max Demand (kW)	Charges			
Bill Ranges & Seasons	Total	On Peak	Off Peak	NC / Max	Other	Energy	Demand	Total
1/1/2021 - 2/1/2021 W	27,726	-	-	192	\$244	\$1,385	\$1,755	\$3,384
2/1/2021 - 3/1/2021 W	6,994	-	-	216	\$244	\$349	\$1,755	\$2,349
3/1/2021 - 4/1/2021 W	6,705	-	-	240	\$244	\$335	\$1,771	\$2,350
4/1/2021 - 5/1/2021 W	-12,758	-	-	258	\$244	\$637	\$1,903	\$1,510
5/1/2020 - 6/1/2020 S	-12,901	-25,536	12,634	260	\$244	\$5,419	\$677	\$4,498
6/1/2020 - 7/1/2020 S	7,190	-20,267	27,457	311	\$244	\$3,430	\$810	\$2,376
7/1/2020 - 8/1/2020 S	35,362	-11,985	47,347	366	\$244	\$474	\$953	\$723
8/1/2020 - 9/1/2020 S	10,058	-20,477	30,534	305	\$244	\$3,326	\$794	\$2,288
9/1/2020 - 10/1/2020 S	25,036	-14,828	39,864	275	\$244	\$1,522	\$716	\$561
10/1/2020 - 11/1/2020 W	23,231	-	-	263	\$244	\$1,161	\$1,940	\$3,345
11/1/2020 - 12/1/2020 W	34,095	-	-	251	\$244	\$1,703	\$1,852	\$3,799
12/1/2020 - 1/1/2021 W	43,106	-	-	206	\$244	\$2,154	\$1,755	\$4,153
Total	193,844	-93,093	157,836	-	\$2,929	-	\$16,681	\$19,610

Annual Electricity Savings: \$92,381

3.1 Cash Purchase

Assumptions and Key Financial Metrics

LCOE PV Generation	\$0.025 /kWh	Net Payments	\$1,050,000	PV Degradation Rate	0.50%
Energy Cost Escalation Rate	2.5%	Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%
Total Project Costs	\$1,500,000				

Years	Project Costs	Annual O&M Cost	Direct pay - 30% ITC	Electric Bill Savings	Total Cash Flow	Cumulative Cash Flow
Upfront	-\$1,500,000	-	-	-	-\$1,500,000	-\$1,500,000
1	-	-	\$450,000	\$92,381	\$542,381	-\$957,619
2	-	-\$5,184	-	\$94,217	\$89,033	-\$868,585
3	-	-\$5,288	-	\$96,088	\$90,800	-\$777,785
4	-	-\$5,393	-	\$97,992	\$92,599	-\$685,186
5	-	-\$5,501	-	\$99,932	\$94,431	-\$590,755
6	-	-\$5,611	-	\$101,908	\$96,297	-\$494,459
7	-	-\$5,724	-	\$103,920	\$98,197	-\$396,262
8	-	-\$5,838	-	\$105,969	\$100,131	-\$296,131
9	-	-\$5,955	-	\$108,055	\$102,101	-\$194,030
10	-	-\$6,074	-	\$110,180	\$104,106	-\$89,924
11	-	-\$6,195	-	\$112,343	\$106,148	\$16,224
12	-	-\$6,319	-	\$114,546	\$108,226	\$124,450
13	-	-\$6,446	-	\$116,788	\$110,342	\$234,792
14	-	-\$6,575	-	\$119,071	\$112,497	\$347,289
15	-	-\$6,706	-	\$121,395	\$114,689	\$461,978
16	-	-\$6,840	-	\$123,761	\$116,921	\$578,899
17	-	-\$6,977	-	\$126,169	\$119,192	\$698,092
18	-	-\$7,117	-	\$128,621	\$121,504	\$819,596
19	-	-\$7,259	-	\$131,116	\$123,857	\$943,453
20	-	-\$7,404	-	\$133,655	\$126,251	\$1,069,704
21	-	-\$7,552	-	\$136,240	\$128,688	\$1,198,392
22	-	-\$7,703	-	\$138,870	\$131,167	\$1,329,559
23	-	-\$7,857	-	\$141,547	\$133,689	\$1,463,248
24	-	-\$8,014	-	\$144,270	\$136,256	\$1,599,504
25	-	-\$8,175	-	\$147,042	\$138,867	\$1,738,371
26	-	-\$8,338	-	\$149,861	\$141,523	\$1,879,894
27	-	-\$8,505	-	\$152,730	\$144,225	\$2,024,119
28	-	-\$8,675	-	\$155,649	\$146,974	\$2,171,093
29	-	-\$8,848	-	\$158,618	\$149,769	\$2,320,862
30	-	-\$9,025	-	\$161,638	\$152,612	\$2,473,474
Totals:	-\$1,500,000	-\$201,099	\$450,000	\$3,724,573	\$2,473,474	-

3.2 Financed Purchase - 20 Year Term

Assumptions and Key Financial Metrics

Net Payments	\$2,026,394	PV Degradation Rate	0.50%	Energy Cost Escalation Rate	2.5%
Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%	Interest Rate	5.5%
Total Project Cost	\$1,500,000	Loan Term	20 Years		

Years	Financing Payments	Annual O&M Payment	Direct pay - 30% ITC	Electric Bill Savings	Total Cash Flow	Cumulative Cash Flow
Upfront	-	-	-	-	-	-
1	-\$123,820	-	\$450,000	\$92,381	\$418,562	\$418,562
2	-\$123,820	-\$5,184	-	\$94,217	-\$34,786	\$383,775
3	-\$123,820	-\$5,288	-	\$96,088	-\$33,020	\$350,756
4	-\$123,820	-\$5,393	-	\$97,992	-\$31,221	\$319,535
5	-\$123,820	-\$5,501	-	\$99,932	-\$29,389	\$290,146
6	-\$123,820	-\$5,611	-	\$101,908	-\$27,523	\$262,623
7	-\$123,820	-\$5,724	-	\$103,920	-\$25,623	\$237,000
8	-\$123,820	-\$5,838	-	\$105,969	-\$23,689	\$213,311
9	-\$123,820	-\$5,955	-	\$108,055	-\$21,719	\$191,592
10	-\$123,820	-\$6,074	-	\$110,180	-\$19,714	\$171,879
11	-\$123,820	-\$6,195	-	\$112,343	-\$17,672	\$154,207
12	-\$123,820	-\$6,319	-	\$114,546	-\$15,593	\$138,613
13	-\$123,820	-\$6,446	-	\$116,788	-\$13,477	\$125,136
14	-\$123,820	-\$6,575	-	\$119,071	-\$11,323	\$113,813
15	-\$123,820	-\$6,706	-	\$121,395	-\$9,131	\$104,682
16	-\$123,820	-\$6,840	-	\$123,761	-\$6,899	\$97,784
17	-\$123,820	-\$6,977	-	\$126,169	-\$4,627	\$93,156
18	-\$123,820	-\$7,117	-	\$128,621	-\$2,315	\$90,841
19	-\$123,820	-\$7,259	-	\$131,116	\$37	\$90,878
20	-\$123,820	-\$7,404	-	\$133,655	\$2,432	\$93,310
21	-	-\$7,552	-	\$136,240	\$128,688	\$221,998
22	-	-\$7,703	-	\$138,870	\$131,167	\$353,165
23	-	-\$7,857	-	\$141,547	\$133,689	\$486,854
24	-	-\$8,014	-	\$144,270	\$136,256	\$623,110
25	-	-\$8,175	-	\$147,042	\$138,867	\$761,977
26	-	-\$8,338	-	\$149,861	\$141,523	\$903,500
27	-	-\$8,505	-	\$152,730	\$144,225	\$1,047,725
28	-	-\$8,675	-	\$155,649	\$146,974	\$1,194,698
29	-	-\$8,848	-	\$158,618	\$149,769	\$1,344,468
30	-	-\$9,025	-	\$161,638	\$152,612	\$1,497,080
Totals:	-\$2,476,394	-\$201,099	\$450,000	\$3,724,573	\$1,497,080	-



entegrity
solar

APPENDIX B

ForgeSolar Glare Analysis

FORGESOLAR GLARE ANALYSIS

Project: **Fort Smith Airport Array**

Site configuration: **Fort Smith Airport Array-temp-1**

Created 02 Feb, 2023

Updated 02 Feb, 2023

Time-step 1 minute

Timezone offset UTC-6

Site ID 83521.10448

Category 500 kW to 1 MW

(1,000 kW / 8 acre limit)

DNI peaks at 1,000.0 W/m²

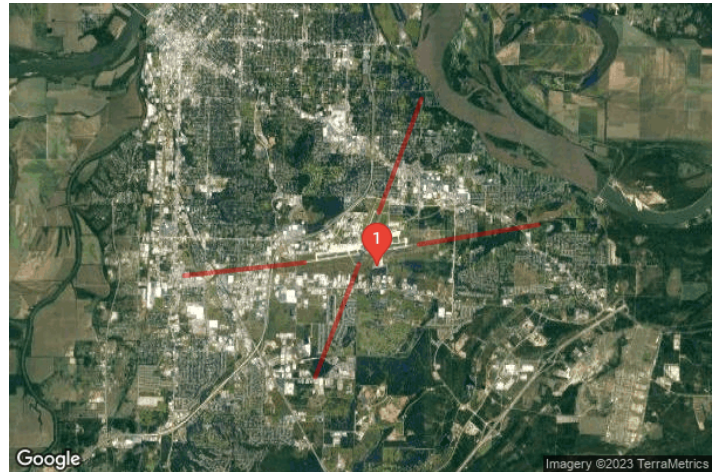
Ocular transmission coefficient 0.5

Pupil diameter 0.002 m

Eye focal length 0.017 m

Sun subtended angle 9.3 mrad

PV analysis methodology V2



Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy kWh
	°	°	min	hr	min	hr	
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0	2,727,000.0

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
FP 1	0	0.0	0	0.0
FP 2	0	0.0	0	0.0
FP 3	0	0.0	0	0.0
FP 4	0	0.0	0	0.0
OP 1	0	0.0	0	0.0

Component Data

PV Arrays

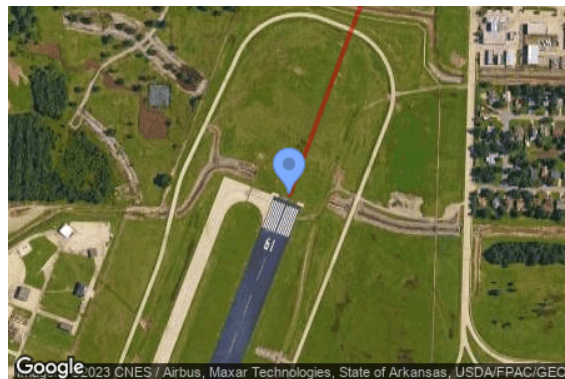
Name: PV array 1
Axis tracking: Single-axis rotation
Backtracking: None
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.2°
Max tracking angle: 60.0°
Rated power: 864.0 kW
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	35.341488	-94.360841	435.11	5.00	440.11
2	35.340246	-94.360884	428.27	5.00	433.27
3	35.340438	-94.362193	435.44	5.00	440.44
4	35.341646	-94.362214	436.22	5.00	441.22

Flight Path Receptors

Name: FP 1
Description:
Threshold height: 50 ft
Direction: 200.6°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	35.345163	-94.363223	447.02	50.00	497.02
Two-mile	35.372231	-94.350748	448.19	602.26	1050.45

Name: FP 2

Description:

Threshold height: 50 ft

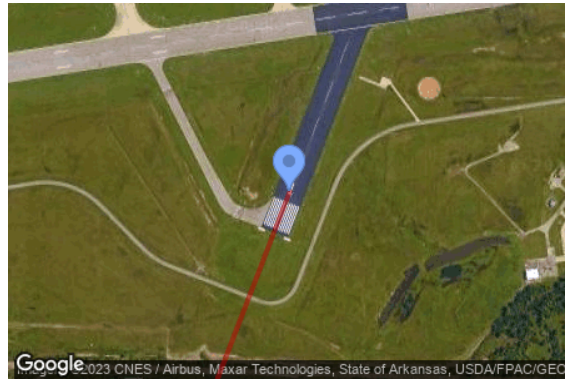
Direction: 21.1°

Glide slope: 3.0°

Pilot view restricted? Yes

Vertical view: 30.0°

Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	35.332841	-94.369059	442.33	50.00	492.33
Two-mile	35.305876	-94.381861	481.41	564.35	1045.76

Name: FP 3

Description:

Threshold height: 50 ft

Direction: 83.9°

Glide slope: 3.0°

Pilot view restricted? Yes

Vertical view: 30.0°

Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	35.333191	-94.384938	472.59	50.00	522.59
Two-mile	35.330103	-94.420217	454.08	621.94	1076.01

Name: FP 4

Description:

Threshold height: 50 ft

Direction: 260.6°

Glide slope: 3.0°

Pilot view restricted? Yes

Vertical view: 30.0°

Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	35.337532	-94.351464	441.95	50.00	491.95
Two-mile	35.342234	-94.316452	414.98	630.40	1045.38

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	35.332153	-94.363641	432.30	80.00

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0	2,727,000.0

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
FP 1	0	0.0	0	0.0
FP 2	0	0.0	0	0.0
FP 3	0	0.0	0	0.0
FP 4	0	0.0	0	0.0
OP 1	0	0.0	0	0.0

PV: PV array 1 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
FP 1	0	0.0	0	0.0
FP 2	0	0.0	0	0.0
FP 3	0	0.0	0	0.0
FP 4	0	0.0	0	0.0
OP 1	0	0.0	0	0.0

PV array 1 and FP 1

Receptor type: 2-mile Flight Path
No glare found

PV array 1 and FP 2

Receptor type: 2-mile Flight Path
No glare found

PV array 1 and FP 3

Receptor type: 2-mile Flight Path
No glare found

PV array 1 and FP 4

Receptor type: 2-mile Flight Path
No glare found

PV array 1 and OP 1

Receptor type: Observation Point

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.

Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.

Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.

The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.

The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.

The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.

The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Refer to the Help page at www.forgesolar.com/help/ for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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APPENDIX C

Agency Coordination and Tribal Consultation



Federal Aviation Administration

10101 Hillwood Parkway
Fort Worth, Texas, TX 76177

Glenn Boles

August 07, 2023

TO:

Fort Smith Regional Airport

Attn: Michael Griffin

6700 McKennon Boulevard, Suite

200

Fort Smith, AR 72903

michael@fortsmithairport.com

RE: *(See attached Table 1 for referenced case(s))*

****FINAL DETERMINATION****

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2023- ASW-3677-NRA		FORT SMITH,AR	35-20-28.54N	94-21-45.16W	8	443
2023- ASW-3678-NRA		FORT SMITH,AR	35-20-28.98N	94-21-44.10W	8	443
2023- ASW-3679-NRA		FORT SMITH,AR	35-20-28.00N	94-21-39.85W	8	442
2023- ASW-3680-NRA		FORT SMITH,AR	35-20-28.44N	94-21-38.80W	8	442
2023- ASW-3681-NRA		FORT SMITH,AR	35-20-26.93N	94-21-37.89W	8	440
2023- ASW-3682-NRA		FORT SMITH,AR	35-20-24.83N	94-21-42.94W	8	442

Description: This study is for the permanent airspace analysis of a solar array at Fort Smith Regional Airport. This project is being completed using BIL funds and is currently undergoing an environmental assessment with the FAA SW Region ADO. Included in this study is a sketch of the project site and glare analysis.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

No Objection with Provisions Provided: Flight Standards has no objection to the height of the structures; however, if the sky mirror poses a glare hazard or there are complaints about glare affecting aircraft operations at nearby airports or aircraft enroute to nearby airports, the proponent must mitigate that glare hazard through shielding, dimming, realignment, relocation, or other satisfactory mitigations .

As a condition to this Determination, the structure is marked and/or lighted in accordance with (NAVAIDS and associated objects) Chapters 3, 4, and 5 of Advisory Circular 70/7460-1M, Obstruction Marking and Lighting.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Air Missions (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

For current Advisory Circulars go to www.oceaaa.faa.gov

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

When your Airport Layout Plan is updated, please include this new development. In the meantime, we will show this feature on your current ALP approved on 06/22/2022.

This determination expires on February 7, 2025 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for the completion of construction, or the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Warren Meeks (817) 222-5684 warren.c.meeks@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-3677-NRA.

Warren Meeks

ADO

Signature Control No: 589214795-595703924

Mountain, Ryan C.

From: Dalton Barnum (adpce.ad) <Dalton.Barnum@adeq.state.ar.us>
Sent: Thursday, July 6, 2023 8:38 AM
To: Mountain, Ryan C.
Subject: FSM Solar Array Installation DEQ Response
Attachments: FSM Solar Array Assessment DEQ Response.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Mr. Mountain,

Please see the attached file for the Division of Environmental Quality's response letter regarding the Ft. Smith Regional Airport's solar array installation. Please let me know if you have any questions or require additional information.

Best,

Dalton Barnum | NStEP Coordinator

Department of Energy & Environment | **Enterprise Services**

5301 Northshore Drive | North Little Rock, AR 72118

t: 501.682.0648 | c: 501.287.8716 | e: dalton.barnum@adeq.state.ar.us



ARKANSAS
ENERGY & ENVIRONMENT



DIVISION OF ENVIRONMENTAL QUALITY

Sarah Huckabee Sanders
GOVERNOR

Shane E. Khoury
SECRETARY

7/6/2023

Ryan Mountain
Senior Environmental Scientist
Garver, LLC
4300 South J.B. Hunt Drive, Suite 240
Rogers, AR 72758
Via email: rcmountain@garverusa.com

RE: National Environmental Policy Act (NEPA) Comments Requested Regarding the Proposed
Forth Smith Regional Airport Solar Array Installation

Dear Mr. Mountain,

The Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ), is pleased to comment on the proposed solar array installation for the Fort Smith Regional Airport (FSM). The proposed project would include the installation of a solar photovoltaic system (including panels and inverters), upgrades to the electrical system, relocation of the airport's perimeter fence, and trenching of electrical lines.

From an environmental compliance standpoint, based on the information provided, there are areas of concern. A Construction Stormwater General Permit ARR150000 is required if the project disturbs one (1) acre or more of land. The Construction Stormwater General Permit is required prior to the start of construction. Information on the permit and its requirements can be found on DEQ's website, <https://www.adeq.state.ar.us/water/permits/npdes/stormwater/>, or by contacting DEQ's Office of Water Quality (OWQ), Construction Stormwater Section, at 501.682.0625.

The Construction Stormwater General permit does not authorize any activity to be conducted in Waters of the State or Waters of the United States. Work in Waters of the State requires a short-term activity authorization (STAA) from DEQ prior to working in the wetted area of a stream or water body. A STAA is necessary for any in-stream activity that could cause an exceedance of applicable water quality standards, including, but not limited to, gravel removal, bridge or crossing repair/maintenance, bank stabilization, debris removal, culvert replacement, flood control projects, and stream relocation. Appropriate Best Management Practices should be used during construction to ensure the protection of the water quality and prevent future impacts or impairment of the receiving waters. For more information and forms, see DEQ's website, <https://www.adeq.state.ar.us/water/planning/instream/>, or call 501.682.0047.

ARKANSAS DEPARTMENT OF ENERGY AND ENVIRONMENT

ee.arkansas.gov | 5301 Northshore Drive, North Little Rock, AR 72118 | 501.682.0744

Additionally, if the project causes water utilities to be relocated, the project will require coverage under the Non-Stormwater Hydrostatic Testing General Permit ARG670000. All applicable State and Federal laws must be met before, during, and after the completion of the project. Any discharge of wastewater — whether domestic, industrial, process water, or such related activities — must be authorized by obtaining the appropriate permits prior to the activities taking place.

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 can be found on the DEQ website, <https://www.adeq.state.ar.us/air/asbestos>. You may also call the Office of Air Quality (OAQ), Asbestos Program, at 501.682.0718 for more information or assistance.

Further, all waste resulting from the proposed project should be properly disposed of, or if the material removed meets the definition of beneficial fill, the material is used as beneficial fill. An upgrade to the wastewater treatment plant may expose polychlorinated biphenyls (PCBs), asbestos, and lead-based paint. 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 OLR's Compliance Section, at 501.682.0582.

This letter is issued in reliance upon the statements and representations made in the submittal. DEQ has no responsibility for the adequacy or proper functioning of the proposed project. Please contact the respective Offices with any questions.

Sincerely,

A handwritten signature in black ink that reads "Lucy Cross". The signature is fluid and cursive, with the first name "Lucy" and the last name "Cross" clearly distinguishable.

Lucy Cross
Director of Enterprise Services, Division of Environmental Quality
5301 Northshore Drive, North Little Rock, AR 72118

LC: tdb



Sarah Huckabee Sanders

Governor

Shea Lewis

Interim Secretary

July 14, 2023

Mr. Ryan Mountain
Senior Environmental Scientist
Garver
4300 South J.B. Hunt Drive, Suite 240
Rogers, AR 72758

Re: Sebastian County: Fort Smith
Section 106 Review: FAA
Proposed Undertaking: Fort Smith Regional Airport Solar Array System
Cultural Resources Survey Report: *A Cultural Resources Survey for the Proposed Airport and Solar Project in Sebastian County, Arkansas*
AHPP Tracking Number: 111180.01

Dear Mr. Mountain:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the cultural resources survey report for the above-mentioned project located in Sections 25 and 36, Township 8 North, Range 32 West in Sebastian County, Arkansas. The proposed project entails the installation of a solar PV system, electrical system upgrades, the relocation of the airport perimeter fence, and the trenching of electrical lines. A Phase I cultural resources survey of the area of potential effect (APE) was conducted to determine if any historic properties were present in the tract and if so, to make management recommendations regarding these properties.

There are no previously recorded archeological sites within the APE and there is one previously recorded archeological site (3SB0997) within 1-mile of the APE. A total of forty-eight shovel tests were excavated, none of which were positive for cultural materials.

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 Cherokee Nation, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Muscogee (Creek) Nation, the Osage Nation, the Quapaw Nation, and the Shawnee Tribe. 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

Digitally signed by
Kathryn Bryles
Date: 2023.07.14
12:28:49 -05'00'

for

Scott Kaufman
AHPP Director and State Historic Preservation Officer

cc: Dr. Melissa Zabecki, Arkansas Archeological Survey



Sarah Huckabee Sanders
Governor
Shea Lewis
Interim Secretary

June 20, 2023

Mr. Ryan Mountain
Senior Environmental Scientist
Garver
4300 South J.B. Hunt Drive, Suite 240
Rogers, AR 2758

RE: Sebastian County: Fort Smith
Section 106 Review: FAA
Proposed Undertaking: Solar Array System Environmental Assessment
AHPP Tracking Number: 111180

Dear Mr. Mountain:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the submission for the above referenced undertaking in Section 36, Township 8 North, Range 32 West in Sebastian County, Arkansas. The proposed undertaking entails the installation of a solar PV system, electrical system upgrades, the relocation of the airport perimeter fence, and the trenching of electrical lines.

Garver is currently investigating the area of potential effect. There are no previously recorded archeological sites or historic properties within the area of potential. Though there are several previously conducted surveys of the Fort Smith Municipal Airport, none have covered the APE. In addition, the AHPP notes that Airport is proximal, but not within, multiple Trail of Tears Corridors.

Tribes that have expressed an interest in the area include the Caddo Nation, the Cherokee Nation, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Muscogee (Creek) Nation, the Osage Nation, the Quapaw Nation, and the Shawnee Tribe. We recommend consultation in accordance with 36 CFR § 800.2(c)(2).

We appreciate the opportunity to review this undertaking. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, call Kathryn Bryles at 501-324-9784 or email kathryn.bryles@arkansas.gov.

Sincerely,

**Kathryn
Bryles**

Digitally signed by
Kathryn Bryles
Date: 2023.06.20
12:05:13 -05'00'

for
Scott Kaufman
AHPP Director and State Historic Preservation Officer

cc: Dr. Melissa Zabecki, Arkansas Archeological Survey



United States Department of the Interior

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



In Reply Refer To:
Project code: 2023-0050543
Project Name: Fort Smith Regional Airport Solar Array EA Project

April 07, 2023

Subject: Verification letter for 'Fort Smith Regional Airport Solar Array EA Project' 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 Garver LLC:

The U.S. Fish and Wildlife Service (Service) received on **April 07, 2023** your effect determination(s) for the 'Fort Smith Regional Airport Solar Array EA Project' (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
American Burying Beetle (<i>Nicrophorus americanus</i>)	Threatened	May affect
Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)	Threatened	NLAA
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	No effect
Piping Plover (<i>Charadrius melodus</i>)	Threatened	NLAA
Red Knot (<i>Calidris canutus rufa</i>)	Threatened	NLAA

Status

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 proposed project may affect the American burying beetle (ABB). However, this project complies with the final 4(d) rule with incidental take covered by the Service's October 15, 2020, Intra-Service Programmatic Biological Opinion on the final 4(d) rule for the ABB addressing "Activities Excepted from Take Prohibitions". Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under Act Section 7(a)(2) with respect to the ABB.

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.

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

Fort Smith Regional Airport Solar Array EA Project

2. Description

The following description was provided for the project 'Fort Smith Regional Airport Solar Array EA Project':

Fort Smith Regional Airport (FSM) in Fort Smith, Sebastian County, AR (see Figure 1) is proposing to establish a solar photovoltaic (PV) system to provide electricity to the terminal building in support of reducing the airport's electric utility costs and dependence on area electrical providers and moving towards the Biden-Harris Administration's Airport Climate Challenge. The proposed installation will require Installation of a solar PV system, including panels and inverters, electrical system upgrades, and trenching of electrical lines.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.3414984,-94.36184150494063,14z>



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 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 the American burying beetle consultation area?
Automatically answered
Yes
 10. Have you determined that the proposed action will have "no effect" on the American burying beetle? (If you are unsure select "No")
No
 11. Will your activity **purposefully take** American burying beetles?
No
-

12. [Semantic] Is your project wholly inside the 4d rule Analysis Area? For areas of your project occurring inside the Analysis Area (New England, Northern Plains, Southern Plains), your project may qualify for exemptions. For areas of your project occurring outside the Analysis Area, all incidental take is exempted according to the ABB 4d Rule.

Automatically answered

Yes

13. Is American burying beetle [suitable habitat](#) present within the action area?

Yes

14. Will suitable habitat be affected by the proposed action? Suitable habitat may be impacted if the action involves soil disturbance, use of vehicles or heavy equipment, artificial lighting, vegetation removal, use of herbicides, pesticides, other hazardous chemicals.

Yes

15. [Semantic] Does the project intersect the red-cockaded woodpecker AOI?

Automatically answered

No

16. [Semantic] Does the project intersect the Eastern black rail AOI?

Automatically answered

Yes

17. Will the project take place in freshwater herbaceous wetlands and/or wet prairies?

Yes

18. Will any part of the project take place between March 15 and May 15 OR between July 15 and October 1?

Yes

19. [Semantic] Does the project intersect the red knot AOI?

Automatically answered

Yes

20. Will the project affect sand and gravel areas or shorelines along rivers, lakes, or reservoirs?

No

21. Does the project take place in marshy or flooded open field habitat?

Yes

22. [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

23. [Semantic] Does the project intersect the Piping Plover AOI?

Automatically answered

Yes

24. [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

25. [Semantic] Does the project intersect the Whooping Crane AOI?

Automatically answered

No

26. [Semantic] Does the project intersect the interior least tern AOI?

Automatically answered

No

27. [Semantic] Does the project intersect the Gray Bat AOI?

Automatically answered

No

28. [Semantic] Does the project intersect the Ozark Big-eared Bat AOI?

Automatically answered

No

29. [Semantic] Does the project intersect the Indiana bat AOI?

Automatically answered

Yes

30. Are there any caves within 0.5 mile of the project area?

No

31. Does the project occur in a subdivision or urban area?

Yes

32. [Semantic] Does the project intersect the Benton County Cave Crayfish AOI?

Automatically answered

No

33. [Semantic] Does the project intersect the Hell Creek Cave Crayfish AOI?

Automatically answered

No

34. [Semantic] Does the project intersect the Ozark cavefish AOI?

Automatically answered

No

35. [Semantic] Does the project intersect the Missouri bladderpod AOI?

Automatically answered

No

36. [Semantic] Does the project intersect the Geocarpon AOI?

Automatically answered

No

37. [Semantic] Does the project intersect the running buffalo clover AOI?

Automatically answered

No

38. [Semantic] Does the project intersect the Pondberry AOI?

Automatically answered

No

PROJECT QUESTIONNAIRE

1. Estimate the total acres of suitable American burying beetle habitat that may be affected.

4.5

2. Please estimate the total number of acres of **temporary impacts** to American burying beetle habitat. See definitions

4.5

3. Please estimate the total number of acres of **permanent impacts** to American burying beetle habitat. See definitions

4.5

IPAC USER CONTACT INFORMATION

Agency: Garver
Name: Garver LLC
Address: 4300 South J.B Hunt Drive, Suite 240
Address Line 2: Suite 240
City: Rogers
State: AR
Zip: 72758
Email: arbiologist@garverusa.com
Phone: 4792874628

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration



United States Department of the Interior

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



In Reply Refer To:
Project code: 2023-0050543
Project Name: Fort Smith Regional Airport Solar Array EA Project

April 07, 2023

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Aviation Administration

Subject: Record of project representative's no effect determination for 'Fort Smith Regional Airport Solar Array EA Project'

Dear Garver LLC:

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 April 07, 2023, for 'Fort Smith Regional Airport Solar Array EA Project' (here forward, Project). This project has been assigned Project Code 2023-0050543 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

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 the 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 Rangewide Determination Key (Dkey), invalidates this letter.

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may

include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

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

The IPaC-assisted determination for the northern long-eared 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
- American Burying Beetle *Nicrophorus americanus* Threatened
- Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* Threatened
- Indiana Bat *Myotis sodalis* Endangered
- Monarch Butterfly *Danaus plexippus* Candidate
- Piping Plover *Charadrius melodus* Threatened
- Red Knot *Calidris canutus rufa* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

Based upon your IPaC submission, your project has reached the determination of "No Effect" on the northern long-eared bat. If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the Arkansas Ecological Services Field Office and reference Project Code 2023-0050543 associated with this Project.

Action Description

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

1. Name

Fort Smith Regional Airport Solar Array EA Project

2. Description

The following description was provided for the project 'Fort Smith Regional Airport Solar Array EA Project':

Fort Smith Regional Airport (FSM) in Fort Smith, Sebastian County, AR (see Figure 1) is proposing to establish a solar photovoltaic (PV) system to provide electricity to the terminal building in support of reducing the airport's electric utility costs and dependence on area electrical providers and moving towards the Biden-Harris Administration's Airport Climate Challenge. The proposed installation will require Installation of a solar PV system, including panels and inverters, electrical system upgrades, and trenching of electrical lines.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.3414984,-94.36184150494063,14z>



DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the Endangered northern long-eared bat (*Myotis septentrionalis*). Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat 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. Do you have post-white nose syndrome occurrence data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed acoustic detections. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

3. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

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

Yes

5. 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

6. 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

7. 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

8. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

9. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

No

10. Does the action area contain or occur within 0.5 miles of (1) talus or (2) anthropogenic or naturally formed rock crevices in rocky outcrops, rock faces or cliffs?

No

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

(If unsure, answer "Yes.")

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥ 3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

No

PROJECT QUESTIONNAIRE

Will all project activities be completed by April 1, 2024?

Yes

IPAC USER CONTACT INFORMATION

Agency: Garver
Name: Garver LLC
Address: 4300 South J.B Hunt Drive, Suite 240
Address Line 2: Suite 240
City: Rogers
State: AR
Zip: 72758
Email: arbiologist@garverusa.com
Phone: 4792874628

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration



DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867
www.swl.usace.army.mil/

July 20, 2023

Regulatory Division

FILE No. SWL-2023-00186

Mr. Colby Marshall
Garver
2049 E. Joyce Blvd.
Fayetteville, AR 72703

Dear Mr. Marshall:

Please refer to your request dated July 5, 2023, on behalf of Fort Smith Regional Airport (FSM), concerning a waters of the United States (WOTUS) determination of a proposed solar array project located within FSM property, in parts of section 36, T. 8 N., R. 23 W., Fort Smith, Sebastian County, Arkansas. In response to your informed, voluntary request, this letter provides a preliminary jurisdictional determination (PJD) that identifies aquatic resources that may be WOTUS on the property and the Department of the Army (DA) permit requirements pursuant to Section 404 of the Clean Water Act (33 U.S. Code 1344).

My review revealed that the property may contain areas that may be WOTUS. Approximately 0.49 acre of wetlands were identified. The approximate location of these areas is shown on the enclosed map of the site.

This PJD is advisory in nature. If you wish to receive an approved jurisdictional determination (AJD) for the property, you must request one. In order to expedite the review, we suggest you provide our office with a delineation of all WOTUS within the property using Corps approved methodology. An AJD is generally valid for a 5-year period, incorporates administrative appeal rights, and specifically identifies the presence or absence, the location, and the extent of WOTUS on the property. Delineations done by consultants are not official until approved by the Corps of Engineers.

Please be advised that the discharge of dredged or fill material in WOTUS, requires a DA permit prior to beginning work in most situations. A permit is required pursuant to Section 404 of the Clean Water Act. The clearing of wetlands with mechanized equipment; landleveling; construction of ditches, dikes, and dams; placement of fill to raise the elevation of a site; and stabilization of banks are examples of activities that may require a permit. All of these activities typically involve the discharge of dredged or fill material in WOTUS.

Your cooperation in the Regulatory Program is appreciated. If you have any questions, please contact me at (501) 340-1386 and refer to No. **SWL-2023-00186**.

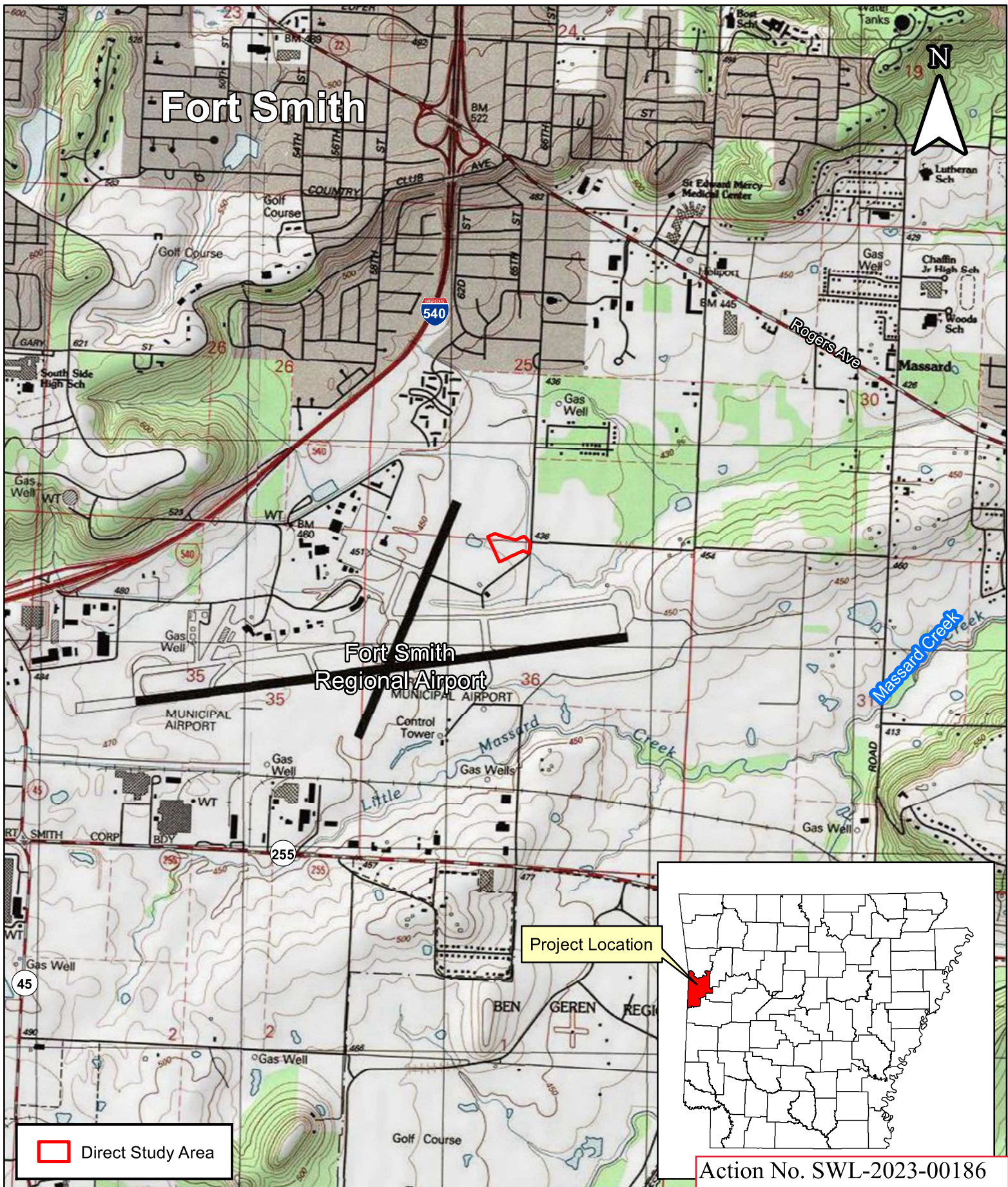
Sincerely,

A handwritten signature in black ink, appearing to read "David Rupe", with a long horizontal flourish extending to the right.

David Rupe
Project Manager

Enclosures

cc:
Russellville PO
Ch, Regulatory Enf



Site Location Map

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

USGS Topographic Image; ESRI GIS INFORMATION

Action No. SWL-2023-00186
Fort Smith, Arkansas
Fort Smith Airport Solar Array
Section 36, T. 8 N., R. 32 W.
July 2023
Page 1 of 3



FEMA FLOODPLAIN, NRCS SOILS, & NWI MAP

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

2022 Aerial Imagery; ESRI GIS INFORMATION

Action No. SWL-2023-00186
Fort Smith, Arkansas
Fort Smith Airport Solar Array
Section 36, T. 8 N., R. 32 W.
July 2023 Page 2 of 3



WETLAND DELINEATION OVERVIEW MAP

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

2022 Aerial Imagery; ESRI GIS INFORMATION

Action No. SWL-2023-00186
Fort Smith, Arkansas
Fort Smith Airport Solar Array
Section 36, T. 8 N., R. 32 W.
July 2023
Page 3 of 3

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM
U.S. Army Corps of Engineers

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: July 20, 2023

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Colby Marshall
Garver
2049 E. Joyce Blvd.
Fayetteville, AR 72703

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESWL-RD, Fort Smith Regional Airport
Solar Array Project, SWL-2023-00186

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Arkansas County/parish/borough: Sebastian City: Fort Smith

Center coordinates of site (lat/long in degree decimal format):

Lat: 35.3407° Long: -94.3617°

Universal Transverse Mercator: NAD 83/UTM Zone 15, Northing: Easting:

Name of nearest waterbody: Massard Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: July 20, 2023

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resources (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Wetland 1	35.34076	-94.36171	0.45 acre	wetland	Section 404
Wetland 2	35.34119	-94.36056	0.04 acre	wetland	Section 404

1. The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriate reference sources below where indicated for all checked items:

☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:

Map: Solar Array Project - Fort Smith Regional Airport: Preliminary Wetland Delineation Report

☒ Data sheets prepared/submitted by or on behalf of the PJD requestor:

☒ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report. Rationale:

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☒ U.S. Geological Survey Hydrologic Atlas: NHD accessed via National Regulatory Viewer

☒ USGS NHD data.

☒ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:

☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey, Ver. 3.4

☒ National wetlands inventory map(s). Cite name: NWI map provided by agent in wetland delineation.

☐ State/Local wetland inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is:

(National Geodetic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): Google Earth (1994-2021)

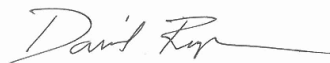
or

☒ Other (Name & Date): Site photographs provided by agent in wetland delineation.

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.



07/20/2023

Signature and date of
Regulatory staff member
completing PJD

Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Osage Nation Historic Preservation Office

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Date: September 7, 2023

File: 2223-6541AR-7

RE: DOT, FAA, Fort Smith Regional Airport, Solar Array System, Sebastian County, Arkansas

Southwest Region, FAA
John MacFarlane
10101 Hillwood Parkway
Fort Worth, TX 76177

Dear Mr. MacFarlane,

The Osage Nation Historic Preservation Office has evaluated your submission regarding the proposed DOT, FAA, Fort Smith Regional Airport, Solar Array System, Sebastian 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 Federal Aviation Administration fulfilled NHPA compliance by consulting with the Osage Nation Historic Preservation Office in regard to the proposed project referenced as DOT, FAA, Fort Smith Regional Airport, Solar Array System, Sebastian 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 Luke Morris at luke.morris@osagenation.nsn.gov. Thank you for consulting with the Osage Nation on this matter.

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

Luke A. Morris, MA
Archaeologist

Mountain, Ryan C.

From: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Sent: Friday, July 28, 2023 1:55 PM
To: Mountain, Ryan C.
Subject: FW: Solar Array System -

Follow Up Flag: Follow up
Flag Status: Flagged

FYI and to be noted in the EA

John

From: Jonathan Rohrer <noreply@jotform.com>
Sent: Friday, July 28, 2023 1:36 PM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Subject: Solar Array System -

John

Thank you for your request for consultation, received on 07-27-2023. The Caddo Nation appreciates your willingness to conduct proper consultation, pursuant to Section 106 of the National Historic Preservation Act.

Upon review of the project and location I have determined that it does not affect known cultural, traditional or sacred sites of interest to the Caddo Nation. As such, the Caddo Nation has no objection to the project at this time. However, in the event that an inadvertent discovery of potentially relevant cultural sites, funerary objects, or human remains occurs, we request that the project be immediately halted and the proper authorities be contacted. Additionally, The Caddo Nation would need to be notified of an inadvertent discovery with 24 hours.

Should you have any question or concerns regarding this response please feel free to contact our office.

Best regards,

Jonathan

Jonathan M. Rohrer
Tribal Historic Preservation Officer



Caddo Nation
P.O. Box 487
Binger, OK 73009
t: (405)656-0970 Ext. 2070

e: jrohrer@mycaddonation.com

www.mycaddonation.com



Mountain, Ryan C.

From: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Sent: Tuesday, August 8, 2023 8:48 AM
To: Cheyenne Greenup
Cc: Oliver-Amy, Kelly M (FAA); Mountain, Ryan C.
Subject: RE: Solar Array System Environmental Assessment Fort Smith Regional Airport, Sebastian Co, Arkansas
Attachments: CULTURAL RESOURCES SURVEY FOR SOLAR PROJECT AT FSM 2023-53.pdf

Ms. Greenup,
Per your request, please find the cultural resources report for the project attached.

Thanks,
John MacFarlane
Regional Environmental Protection Specialist
Federal Aviation Admin.
Planning & Programming Branch, ASW 610
Phone: 817-222-5681

From: Cheyenne Greenup <cheyenne.greenup@quapawnation.com>
Sent: Tuesday, August 1, 2023 4:26 PM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Subject: Solar Array System Environmental Assessment Fort Smith Regional Airport, Sebastian Co, Arkansas

The Quapaw Nation Historic Preservation Program (QNHP) has received notification of the proposed project listed as Solar Array System Environmental Assessment Fort Smith Regional Airport, Sebastian Co, Arkansas.

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 a vital interest in protecting its historic and ancestral cultural resources. The Quapaw Nation requests that a cultural reconnaissance survey be conducted for the project listed as Solar Array System Environmental Assessment Fort Smith Regional Airport, Sebastian Co, Arkansas.

Please contact the Quapaw Nation Historic Preservation Office with your response to this request. This office looks forward to receiving and reviewing the cultural resource survey report for the proposed project listed as Solar Array System Environmental Assessment Fort Smith Regional Airport, Sebastian Co, Arkansas. The Quapaw Nation requires that cultural resource survey personnel and reports follow the Secretary of Interior's standards and guidelines.

Should you have any questions or need any additional information, please feel free to contact Cheyenne Greenup at Cheyenne.greenup@quapawnation.com, please copy section106@quapawnation.com to insure additional informational request are reviewed in a timely manner. Thank you for consulting with the Quapaw Nation on this matter.

Cheyenne Greenup
Section 106 Research Coordinator

Quapaw Nation
P.O. Box 765
Quapaw, OK 74363
(W) 918-238-3100 ext.6109



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CHEROKEE NATION®

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

Chuck Hoskin Jr.

Principal Chief
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Bryan Warner

Deputy Principal Chief
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August 21, 2023

John MacFarlane
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, TX 76177

Re: Fort Smith Regional Airport, Solar Array System Environmental Assessment

Mr. John MacFarlane:

The Cherokee Nation (Nation) is in receipt of your correspondence about and related report for **Fort Smith Regional Airport**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found instances where this project is within close proximity to such resources, including the CHEROKEE TRAIL OF TEARS. No intact components related to this significant cultural and historic resource, however, is outside the Area of Potential Effects (APE) according to the related report. Thus, this Office does not object to the project proceeding as long as the following stipulations are observed:

- 1) The Nation requests that the Federal Aviation Administration (FAA) re-contact this Office for additional consultation if there are any changes to the scope of or activities within the APE;
- 2) The Nation requests that the FAA halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project; and
- 3) The Nation requests that the FAA conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

Fort Smith Regional Airport

August 21, 2023

Page 2 of 2

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

Wado,

A handwritten signature in blue ink that reads "Elizabeth Toombs". The signature is fluid and cursive, with the first name "Elizabeth" and last name "Toombs" clearly distinguishable.

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

APPENDIX D

Federal and State Species Lists



United States Department of the Interior

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



In Reply Refer To:
Project Code: 2023-0050543
Project Name: Fort Smith Regional Airport Solar Array EA Project

March 01, 2023

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

To Whom It May Concern:

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

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

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

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

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

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

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2023-0050543

Project Name: Fort Smith Regional Airport Solar Array EA Project

Project Type: Airport - New Construction

Project Description: Installation of a solar array system at the Fort Smith Regional Airport, Sebastian County, Arkansas.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.3414984,-94.36184150494063,14z>



Counties: Sebastian County, 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	Threatened

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
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. 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
American Burying Beetle <i>Nicrophorus americanus</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration
Name: Garver LLC
Address: 4300 South J.B Hunt Drive, Suite 240
Address Line 2: Suite 240
City: Rogers
State: AR
Zip: 72758
Email: arbiologist@garverusa.com
Phone: 4792874628



Sarah Huckabee Sanders

Governor

Shea Lewis

Interim Secretary

Date: June 16, 2023

Subject: Elements of Special Concern
Fort Smith Airport Solar Array
Sebastian County, Arkansas
ANHC No.: P-CF..-23-062

Mr. Ryan Mountain
Garver
4300 South J.B. Hunt Dr.
Suite 240
Rogers, AR 72758

Dear Mr. Mountain:

Staff members of the Arkansas Natural Heritage Commission have reviewed our files for records indicating the occurrence of rare plants and animals, outstanding natural communities, natural or scenic rivers, or other elements of special concern within or near the following site:

Project Name	County	Quad. Name	Location
Airport Solar Array	Sebastian	Barling 7.5'	T8N/R32W/S25,36

We find no records at present time.

Sebastian and Crawford County element lists are enclosed. Represented on these lists are elements for which we have records in our database. The lists have been annotated to indicate those elements known to occur within a one and a five mile radius of the project site. A legend is enclosed to help you interpret the codes used on these lists.

Please keep in mind that the project area may contain important natural features of which we are unaware. Staff members of the Arkansas Natural Heritage Commission have not conducted a field survey of the study site. Our review is based on data available to the program at the time of the request. It should not be regarded as a final statement on the elements or areas under consideration. Because our files are updated constantly, you may want to check with us again at a later time.

Thank you for consulting us. It has been a pleasure to work with you on this study.

Sincerely,

Cindy Osborne
Data Manager/Environmental Review Coordinator

Enclosures: Legend
Sebastian & Crawford County Element Lists (annotated)
Invoice

Arkansas Natural Heritage Commission
Division of Arkansas Heritage
Department of Parks, Heritage and Tourism
Crawford County

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Animals-Invertebrates					
<i>Alasmodonta marginata</i>	Elktoe	-	INV	G4	S3
<i>Argynnis diana</i>	Diana Fritillary	-	INV	G2G3	S2S3
<i>Caecidotea macropropoda</i>	bat cave isopod	-	INV	G2G3	S2
<i>Ellipsoptera macra</i>	sandy stream tiger beetle	-	INV	G5	S2S3
<i>Faxonius nana</i>	Midget Crayfish	-	INV	G3	S3
<i>Lampsilis spA cf hydiana</i>	"Arkoma" Fatmucket	-	INV	GNR	S3
<i>Leptodea leptodon</i>	Scaleshell	LE	SE	G1G2	S2
<i>Paduniella nearctica</i>	nearctic paduniellan caddisfly	-	INV	G2	S1?
<i>Quadrula apiculata</i>	Southern Mapleleaf	-	INV	G5	S3
<i>Toxolasma lividum</i>	Purple Lilliput	-	INV	G3	S3
<i>Truncilla donaciformis</i>	Fawnsfoot	-	INV	G5	S3
<i>Venustaconcha ellipsiformis</i>	Ellipse	-	INV	G4	S2
<i>Villosa sp. cf lienosa</i>	little spectaclecase	-	INV	G5	S2S3
Animals-Vertebrates					
<i>Alosa alabamae</i>	Alabama shad	-	INV	G2G3	S1
<i>Anguilla rostrata</i>	American eel	-	INV	G4	S3
<i>Corynorhinus townsendii ingens</i>	Ozark big-eared bat	LE	SE	G4T1	S1
<i>Cyprinella camura</i>	bluntnose shiner	-	INV	G5	SH
<i>Etheostoma mihileze</i>	sunburst darter	-	INV	G4	S3
<i>Etheostoma teddyroosevelt</i>	highland darter	-	INV	GNR	S3
<i>Haliaeetus leucocephalus</i>	Bald Eagle	-	INV	G5	S3B,S4N
<i>Hiodon alosoides</i>	goldeye	-	INV	G5	S2
✓ <i>Hybognathus placitus</i>	plains minnow	-	INV	G4	SH
<i>Lithobates sylvaticus</i>	Wood Frog	-	INV	G5	S3
<i>Moxostoma pisolabrum</i>	pealip redhorse	-	INV	G5	S2
<i>Myotis leibii</i>	eastern small-footed bat	-	INV	G4	S1
<i>Myotis septentrionalis</i>	northern long-eared bat	LT(PE)	SE	G2G3	S1S2
<i>Notiosorex crawfordi</i>	Crawford's gray shrew	-	INV	G4	S2
<i>Ophisaurus attenuatus</i>	Slender Glass Lizard	-	INV	G5	S3
<i>Percina nasuta</i>	longnose darter	-	INV	G3	S3
<i>Percina phoxocephala</i>	slenderhead darter	-	INV	G5	S2
<i>Phenacobius mirabilis</i>	suckermouth minnow	-	INV	G5	S1?
<i>Polyodon spathula</i>	paddlefish	-	INV	G4	S3
✓ <i>Pseudacris streckeri</i>	Strecker's Chorus Frog	-	INV	G5	S2
<i>Regina grahamii</i>	Graham's Crayfish Snake	-	INV	G5	S2
<i>Regina septemvittata</i>	Queensnake	-	INV	G5	S1
<i>Setophaga cerulea</i>	Cerulean Warbler	-	INV	G4	S3B
<i>Spilogale putorius</i>	eastern spotted skunk	-	INV	G4	S2S3
<i>Sternula antillarum athalassos</i>	Interior Least Tern	-	INV	G4T3Q	S3B

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
<i>Taxidea taxus</i>	American badger	-	INV	G5	S1S2
Plants-Vascular					
<i>Asclepias incarnata</i> ssp. <i>incarnata</i>	swamp milkweed	-	INV	G5T5	S2
✓ <i>Bergia texana</i>	Texas bergia	-	INV	G5	S2
<i>Castilleja indivisa</i>	entire-leaf Indian-paintbrush	-	INV	G5	SH
✓ <i>Croton lindheimerianus</i> var. <i>lindheimerianus</i>	Lindheimer's croton	-	INV	G5TNR	S1
<i>Cypripedium kentuckiense</i>	Kentucky lady's-slipper	-	INV	G3	S2
✓ <i>Euphorbia hexagona</i>	six-angle spurge	-	INV	G5	S2
✓ <i>Fuirena simplex</i> var. <i>aristulata</i>	western umbrella sedge	-	INV	G5T4	S1
✓ <i>Heliotropium convolvulaceum</i>	phlox heliotrope	-	INV	G5	S2
<i>Heuchera villosa</i> var. <i>arkansana</i>	Arkansas alumroot	-	INV	G5T3Q	S3
<i>Hieracium scabrum</i>	rough hawkweed	-	INV	G5	S2
<i>Lathyrus pusillus</i>	low vetchling	-	INV	G5?	S2
<i>Mimulus floribundus</i>	yellow monkey-flower	-	INV	G5	S2S3
<i>Silene ovata</i>	ovate-leaf catchfly	-	ST	G3	S3
<i>Stachys iltisii</i>	Ouachita hedge-nettle	-	INV	G3	S3
<i>Tradescantia ozarkana</i>	Ozark spiderwort	-	INV	G3	S3
<i>Valerianella nuttallii</i>	Nuttall's cornsalad	-	INV	G3	S2
Special Elements-Other					
Colonial nesting site, water birds		-	INV	GNR	SNR

★ - These elements of special concern have been recorded within a 1-mile radius of the study area.

✓ - These elements of special concern have been recorded within a 5-mile radius of the study area

Arkansas Natural Heritage Commission
Division of Arkansas Heritage
Department of Parks, Heritage and Tourism
Sebastian County

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Animals-Invertebrates					
<i>Amblyscirtes belli</i>	Bell's Roadside-Skipper	-	INV	G4	S3S4
<i>Argynnis diana</i>	Diana Fritillary	-	INV	G2G3	S2S3
<i>Atrytone arogos iowa</i>	Arogos Skipper	-	INV	G2G3T2T3	S1
<i>Calephelis borealis</i>	Northern Metalmark	-	INV	G3	S3
<i>Callophrys irus hadros</i>	Frosted Elfin	-	INV	G2G3T2T3	S1
<i>Chlosyne gorgone</i>	Gorgone Checkerspot	-	INV	G5	S3
<i>Cicindela hirticollis</i>	beach-dune tiger beetle	-	INV	G5	S2S3
<i>Hesperia leonardus</i>	Leonard's Skipper	-	INV	G4	S3
<i>Hesperia meskei</i>	Meske's Skipper	-	INV	G3G4	S1S2
<i>Hesperia metea</i>	Cobweb Skipper	-	INV	G4	S3
<i>Lucanus elaphus</i>	giant stag beetle	-	INV	G3G5	S2
✓ <i>Nicrophorus americanus</i>	American burying beetle	LT	SE	G3	S1
✓★ <i>Procambarus liberorum</i>	Osage Burrowing Crayfish	-	INV	G3G4	S3S4
<i>Procambarus parasimulans</i>	Bismark Burrowing Crayfish	-	INV	G3G4	S3S4
<i>Satyrium favonius ontario</i>	Oak Hairstreak	-	INV	G4G5T4	S3
Animals-Vertebrates					
<i>Anguilla rostrata</i>	American eel	-	INV	G4	S3
<i>Calcarius pictus</i>	Smith's Longspur	-	INV	G4G5	S2N
<i>Crotaphytus collaris</i>	Eastern Collared Lizard	-	INV	G5	S2
<i>Cycleptus elongatus</i>	blue sucker	-	INV	G3G4	S3
✓ <i>Gastrophryne olivacea</i>	Great Plains Narrowmouth Toad	-	INV	G5	S2
<i>Haliaeetus leucocephalus</i>	Bald Eagle	-	INV	G5	S3B,S4N
✓ <i>Hiodon alosoides</i>	goldeye	-	INV	G5	S2
✓ <i>Hybognathus placitus</i>	plains minnow	-	INV	G4	SH
✓ <i>Limnothlypis swainsonii</i>	Swainson's Warbler	-	INV	G4	S3B
✓ <i>Liodytes rigida</i>	Glossy Swampsnake	-	INV	G5	S3
<i>Lithobates areolatus</i>	Crawfish Frog	-	INV	G4	S2
<i>Moxostoma pisolabrum</i>	pealip redhorse	-	INV	G5	S2
✓ <i>Myotis grisescens</i>	gray bat	LE	SE	G3G4	S2S3
✓ <i>Myotis lucifugus</i>	little brown bat	-	SE	G3G4	S1
<i>Myotis septentrionalis</i>	northern long-eared bat	LT(PE)	SE	G2G3	S1S2
<i>Ophisaurus attenuatus</i>	Slender Glass Lizard	-	INV	G5	S3
<i>Percina phoxocephala</i>	slenderhead darter	-	INV	G5	S2
✓ <i>Phenacobius mirabilis</i>	suckermouth minnow	-	INV	G5	S1?
<i>Plestiodon septentrionalis</i>	Prairie Skink	-	INV	G5	S2
<i>Polyodon spathula</i>	paddlefish	-	INV	G4	S3
<i>Pseudacris streckeri</i>	Strecker's Chorus Frog	-	INV	G5	S2
<i>Reithrodontomys humulis</i>	eastern harvest mouse	-	INV	G5	S2
<i>Scaphiopus huerterii</i>	Hurter's Spadefoot	-	INV	G5	S2

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
✓ <i>Spilogale putorius</i>	eastern spotted skunk	-	INV	G4	S2S3
<i>Sternula antillarum athalassos</i>	Interior Least Tern	-	INV	G4T3Q	S3B
<i>Terrapene ornata</i>	Ornate Box Turtle	-	INV	G5	S2
<i>Thryomanes bewickii</i>	Bewick's Wren	-	INV	G5	S1B,S1S2N
Plants-Vascular					
<i>Androsace occidentalis</i>	rock-jasmine	-	INV	G5	S1
✓ <i>Antennaria neglecta</i>	field pussytoes	-	INV	G5	S1
<i>Aristida purpurea</i> var. <i>purpurea</i>	purple three-awn	-	INV	G5T5	S1
✓ <i>Calopogon oklahomensis</i>	Oklahoma grass-pink	-	INV	G2	S2
✓ <i>Camassia angusta</i>	prairie wild hyacinth	-	INV	G5?Q	S2S3
<i>Carex arkansana</i>	Arkansas sedge	-	INV	G4	S1
✓ <i>Carex fissa</i> var. <i>fissa</i>	hammock sedge	-	INV	G4?T3T4	S1
✓ <i>Carex opaca</i>	opaque prairie sedge	-	SE	G4	S2S3
<i>Castilleja indivisa</i>	entire-leaf Indian-paintbrush	-	INV	G5	SH
<i>Collinsia verna</i>	blue-eyed Mary	-	INV	G5	S1
✓ <i>Cooperia drummondii</i>	rain-lily	-	INV	G5	S1S2
<i>Crocanthemum rosmarinifolium</i>	rosemary rock-rose	-	INV	G4	S1
<i>Croton lindheimerianus</i> var. <i>lindheimerianus</i>	Lindheimer's croton	-	INV	G5TNR	S1
<i>Dalea lanata</i> var. <i>lanata</i>	woolly prairie-clover	-	INV	G5TNR	S2S3
<i>Diaperia verna</i> var. <i>verna</i>	many-stem rabbit-tobacco	-	INV	G5TNR	SH
✓ <i>Eleocharis wolfii</i>	Wolf's spike-rush	-	INV	G3G5	S3
<i>Equisetum laevigatum</i>	smooth scouring-rush	-	INV	G5	S1
<i>Geocarpon minimum</i>	geocarpon	LT	SE	G2	S2
✓ <i>Iva angustifolia</i>	slender marsh-elder	-	INV	G5?	S1
✓ <i>Koeleria macrantha</i>	prairie June grass	-	INV	G5	S2
<i>Krigia occidentalis</i>	western dwarf-dandelion	-	INV	G5	S3
✓ <i>Lathyrus pusillus</i>	low vetchling	-	INV	G5?	S2
✓ <i>Lithospermum incisum</i>	fringed puccoon	-	INV	G5	S2S3
✓ <i>Marshallia caespitosa</i> var. <i>caespitosa</i>	Barbara's-buttons	-	INV	G4T4	S2
<i>Minuartia drummondii</i>	Drummond's sandwort	-	INV	G5	S2S3
<i>Monarda luteola</i>	yellow-flower beebalm	-	INV	G2	S1
✓ <i>Nemastylis nuttallii</i>	Nuttall's pleat-leaf	-	INV	G3	S2
✓ <i>Physalis pumila</i>	prairie ground-cherry	-	INV	G5	S1
<i>Plantago patagonica</i>	woolly plantain	-	INV	G5	S2
<i>Polygala incarnata</i>	pink milkwort	-	INV	G5	S1S2
✓ <i>Prenanthes aspera</i>	prairie rattlesnake-root	-	INV	G4?	S2S3
<i>Quercus acerifolia</i>	maple-leaf oak	-	ST	G1	S1
✓ <i>Rhynchospora macrostachya</i>	prairie horned beaksedge	-	INV	G4	S2
<i>Rosa foliolosa</i>	white prairie rose	-	INV	G5	SH
<i>Rudbeckia maxima</i>	great coneflower	-	INV	G4?	S3
<i>Schedonnardus paniculatus</i>	tumble grass	-	INV	G5	S2
<i>Scleria muehlenbergii</i>	Muhlenberg's nut-rush	-	INV	G5	S1S2
✓ <i>Solidago speciosa</i> var. <i>rigidiuscula</i>	narrow-leaf showy goldenrod	-	INV	G5T4	S2S3
<i>Tradescantia bracteata</i>	long-bract spiderwort	-	INV	G5	S2
<i>Valerianella nuttallii</i>	Nuttall's cornsalad	-	INV	G3	S2

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Special Elements-Natural Communities					
✓ Arkansas Valley Prairie and Woodland		-	INV	GNR	S2
Ozark-Ouachita Dry Oak Woodland		-	INV	GNR	S5

★ - These elements of special concern have been recorded within a 1-mile radius of the study area.

✓ - These elements of special concern have been recorded within a 5-mile radius of the study area

LEGEND

STATUS CODES

FEDERAL STATUS CODES

C	=	Candidate species. The U.S. Fish and Wildlife Service has enough scientific information to warrant proposing this species for listing as endangered or threatened under the Endangered Species Act.
LE	=	Listed Endangered; the U.S. Fish and Wildlife Service has listed this species as endangered under the Endangered Species Act.
LT	=	Listed Threatened; the U.S. Fish and Wildlife Service has listed this species as threatened under the Endangered Species Act.
-PD	=	Proposed for Delisting; the U.S. Fish and Wildlife Service has proposed that this species be removed from the list of Endangered or Threatened Species.
PE	=	Proposed Endangered; the U.S. Fish and Wildlife Service has proposed this species for listing as endangered.
PT	=	Proposed Threatened; the U.S. Fish and Wildlife Service has proposed this species for listing as threatened.
T/SA E/SA	=	Threatened (or Endangered) because of similarity of appearance.

STATE STATUS CODES

INV	=	Inventory Element; The Arkansas Natural Heritage Commission is currently conducting active inventory work on these elements. Available data suggests these elements are of conservation concern. These elements may include outstanding examples of Natural Communities, colonial bird nesting sites, outstanding scenic and geologic features as well as plants and animals, which, according to current information, may be rare, peripheral, or of an undetermined status in the state. The ANHC is gathering detailed location information on these elements.
WAT	=	Watch List Species; The Arkansas Natural Heritage Commission is not conducting active inventory work on these species, however, available information suggests they may be of conservation concern. The ANHC is gathering general information on status and trends of these elements. An “*” indicates the status of the species will be changed to “INV” if the species is verified as occurring in the state (this typically means the agency has received a verified breeding record for the species).
MON	=	Monitored Species; The Arkansas Natural Heritage Commission is currently monitoring information on these species. These species do not have conservation concerns at present. They may be new species to the state, or species on which additional information is needed. The ANHC is gathering detailed location information on these elements
SE	=	State Endangered; this term is applied differently for plants and animals. Animals – These species are afforded protection under Arkansas Game and Fish Commission (AGFC) Regulation. The AGFC states that it is unlawful to import, transport, sell, purchase, hunt, harass or possess any threatened or endangered species of wildlife or parts. The AGFC lists as endangered any wildlife species or subspecies endangered or threatened with extinction, listed or proposed as a candidate for listing by the U.S. Fish and Wildlife Service or any native species or subspecies listed as endangered by the Commission. Plants – These species have been recognized by the Arkansas Natural Heritage Commission as being in danger of being extirpated from the state. This is an administrative designation with no regulatory authority.
ST	=	State Threatened; These species have been recognized by the Arkansas Natural Heritage Commission as being likely to become endangered in Arkansas in the foreseeable future, based on current inventory information. This is an administrative designation with no regulatory authority.

DEFINITION OF RANKS

Global Ranks

G1	=	Critically imperiled globally. At a very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
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G2	=	Imperiled globally. At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3	=	Vulnerable globally. At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4	=	Apparently secure globally. Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5	=	Secure globally. Common, widespread and abundant.
GH	=	Of historical occurrence, possibly extinct globally. Missing; known from only historical occurrences, but still some hope of rediscovery.
GU	=	Unrankable. Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GX	=	Presumed extinct globally. Not located despite intensive searches and virtually no likelihood of rediscovery.
GNR	=	Unranked. The global rank not yet assessed.
GNA	=	Not Applicable. A conservation status rank is not applicable.
T-RANKS=		T subranks are given to global ranks when a subspecies, variety, or race is considered at the state level. The subrank is made up of a "T" plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.

State Ranks

S1	=	Critically imperiled in the state due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors making it vulnerable to extirpation.
S2	=	Imperiled in the state due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it vulnerable to extirpation.
S3	=	Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4	=	Apparently secure in the state. Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5	=	Secure in the state. Common, widespread and abundant.
SH	=	Of historical occurrence, with some possibility of rediscovery. Its presence may not have been verified in the past 20-40 years. A species may be assigned this rank without the 20-40 year delay if the only known occurrences were destroyed or if it had been extensively and unsuccessfully sought.
SU	=	Unrankable. Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SX	=	Presumed extirpated from the state. Not located despite intensive searches and virtually no likelihood of rediscovery.
SNR	=	Unranked. The state rank not yet assessed.
SNA	=	Not Applicable. A conservation status rank is not applicable.

General Ranking Notes

Q	=	A "Q" in the global rank indicates the element's taxonomic classification as a species is a matter of conjecture among scientists.
RANGES=		Ranges are used to indicate a range of uncertainty about the status of the element.
?	=	A question mark is used to denote an inexact numeric rank.
B	=	Refers to the breeding population of a species in the state.
N	=	Refers to the non-breeding population of a species in the state.

APPENDIX E

Stream and Wetland Assessment



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May 24, 2023

Sarah Chitwood
Chief Regulatory Division
U.S. Army Corps of Engineers
ATTN: CESWL-RD, Rm 6323
700 W. Capitol Avenue
Federal Building 7th Floor
Little Rock, AR 72203
#501-324-5295; CESWL-Regulatory@usace.army.mil

Re: Solar Array Project – Fort Smith Regional Airport (FSM)
Fort Smith, Sebastian County, Arkansas
Preliminary Wetland Delineation Report & PJD Request

Ms. Chitwood,

Fort Smith Regional Airport (FSM) in Fort Smith, Sebastian County, AR (see **Figure 1**) is proposing to establish a solar photovoltaic (PV) system to provide electricity to the terminal building in support of reducing the airport's electric utility costs and dependence on area electrical providers and moving towards the Biden-Harris Administration's Airport Climate Challenge. The proposed installation will require Installation of a solar PV system, including panels and inverters, electrical system upgrades, trenching of electrical lines, and the relocation of the airport perimeter fence. Garver, LLC has been retained to conduct a wetland delineation and develop National Environmental Policy Act (NEPA) document. The project is currently in the design phase and this report will aid in the avoidance and minimization of impacts to aquatic features. This wetland delineation report summarizes our investigation and requests a Preliminary Jurisdictional Determination (PJD) in concurrence with our findings.

Regulatory Basis

Discharges of dredged or fill material into Waters of the United States are regulated under Section 404 of the Clean Water Act. Any such action proposed in wetlands or other Waters of the U.S. are subject to review by the U.S. Army Corps of Engineers (USACE) and other federal and state agencies and require authorization by USACE. For jurisdictional purposes, USACE and the U.S. Environmental Protection Agency (EPA) jointly define wetlands as follows: *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (USACE 1987).*

Methodology

The U.S. Fish and Wildlife Service (USFWS) in cooperation with Cowardin, et al. (1979), have identified a classification system that is widely accepted by the USACE in relation to classifying wetland and stream habitats (i.e., Classification of Wetlands and Deepwater Habitats of the United States). Wetlands and

streams in the study area have been identified utilizing the methodology presented in this classification system.

Prior to the site visit, Garver performed a desktop review of the study area (**Figure 2**). The review included USFWS National Wetlands Inventory (NWI), U.S. Geological Survey (USGS) topographic quadrangle maps, and the National Hydrography Database (NHD) for the presence of streams and other waterbodies. Federal Emergency Management Agency (FEMA) Floodplain data and Natural Resources Conservation Service (NRCS) soil data were also reviewed. A site visit was conducted on March 7, 2023. According to the Fort Smith Regional Airport weather station (USW00013964) in Fort Smith, AR, the area received approximately 1.76 inches of rainfall within the previous week of the site visit. Inquiry into the USACE's Antecedent Precipitation Tool demonstrated wetter than normal precipitation conditions for the area. The project's limits of construction or direct study area and adjacent areas were investigated during the visit. Conditions on site appeared to be normal for an airfield; however, disturbances to vegetation and hydrology exist due to groundskeeping and historic grading, respectively. According to the NRCS Web Soil Survey, two soil map units exist within the study area. Each unit is categorized as hydric soil and includes Wrightsville-Messer silt loams complex, 0 to 1 percent slopes and Wrightsville silt loam, 0 to 2 percent slopes (**Figure 2**). Additionally, a review of the NWI Mapper exhibited one PFO wetland while FEMA flood maps exhibited 100-year floodplain (Zone AE) south of the study area (**Figure 2**).

Results

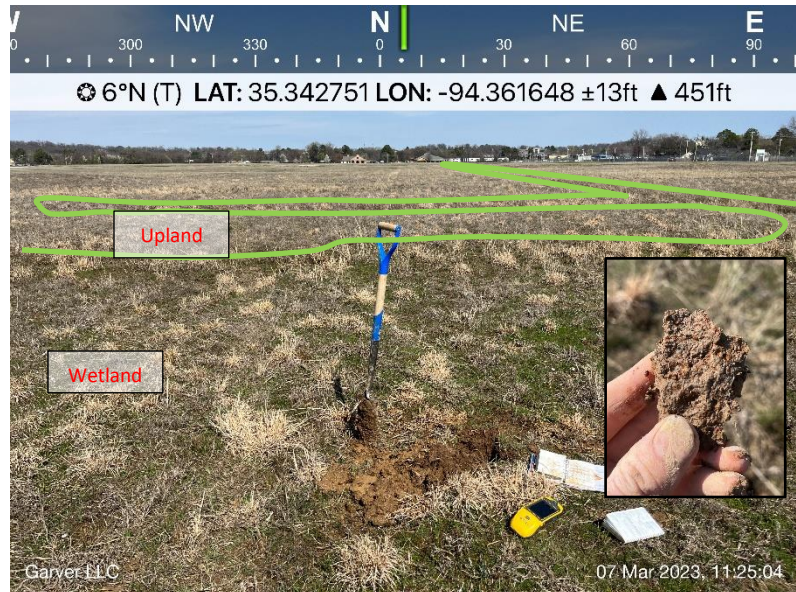
Two emergent wetlands (W) were delineated within the study area (**Figure 3**). The wetlands, associated with a high water table and poor hydrologic relief, generally convey water south and southeast to a roadside ditch and finally southwest to a channelized unnamed tributary. Below are details regarding each feature delineated at the site with summarized data in **Table 1**. Additionally, wetland data points (data forms attached) and observation points were recorded to characterize and define the boundaries between wetland and upland features.

Wetlands 1 ►

Wetland 1 is classified as a PEM1E (Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated Wetland). The wetland was present within microlows and concave surfaces and generally drains south and east to W 2, a roadside ditch. Wetland hydrology is the result of stormwater runoff, high water table, poor hydrologic relief, and poorly drained soils as described by NRCS. Observed primary hydrology indicators included surface water at some locations, high water table, and saturated soils. Vegetation was mowed and lacked natural diversity. Dominant



vegetation observed included bushy bluestem (*Andropogon glomeratus*), hairy buttercup (*Ranunculus sardous*), marsh bristle grass (*Setaria parviflora*) and flatsedge (*Cyperus* sp.). The wetland exhibited hydric soils (depleted matrix) as shown in insets within wetland photos. A total of 0.45 acre of Wetland 1 occur within the direct study area. This feature is likely subject to regulation by the USACE due to occasional surface water connection to an adjacent unnamed tributary to Massard Creek, a USGS-mapped perennial stream.



Wetland 2 ►

Wetland 2 is classified as a PEM1Er (Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated, Artificial Wetland) and is a roadside ditch which drains from Wetland 1 to a channelized stream to the southwest. Observed primary hydrology indicators included surface water, high water table, and saturation. Observed vegetation included bushy bluestem (*Andropogon glomeratus*) and hairy buttercup (*Ranunculus sardous*). A soil check exhibited a depleted matrix like those in Wetland 1. Approximately 0.04 ac of Wetland 2 occurs within the direct study area. This feature is likely subject to regulation by the USACE due to the conveyance of water from W 1 to an unnamed tributary to Massard Creek.



Table 1: Preliminary Wetlands

Wetland	Cowardin Classification	Latitude, Longitude	Area (acre) within Study Area
Wetland 1	PEM1E	35.340765°, -94.361715°	0.45
Wetland 2	PEM1Er	35.341195°, -94.360563°	0.04
		Total	0.49

Conclusion

As described in this report, a total of 0.49 acres of two wetlands were identified within the direct study area. No other aquatic features were identified. These features are likely regulated by the USACE due to their occasional surface water connection to unnamed tributaries to Massard Creek. Impacts to aquatic features will be addressed in a forthcoming Section 404 permit application. We respectfully request USACE issue a PJD in concurrence with these preliminary determinations.

Enclosed with this wetland report are several attachments to aid in your review, including site maps, data forms, and weather data. Please call me at 479-879-9746 or email me at JCMarshall@GarverUSA.com if you have any questions.

Sincerely,

GARVER



Colby Marshall
Environmental Scientist

cc: Adam White, PE - Garver
Ryan Mountain, PWS – Garver

Attachments: Figure 1 - Site Location Map
Figure 2 - FEMA Floodplain, NRCS Soil, & USFWS NWI Map
Figure 3 - Wetland Delineation Overview
Wetland Data Forms
Weather Data

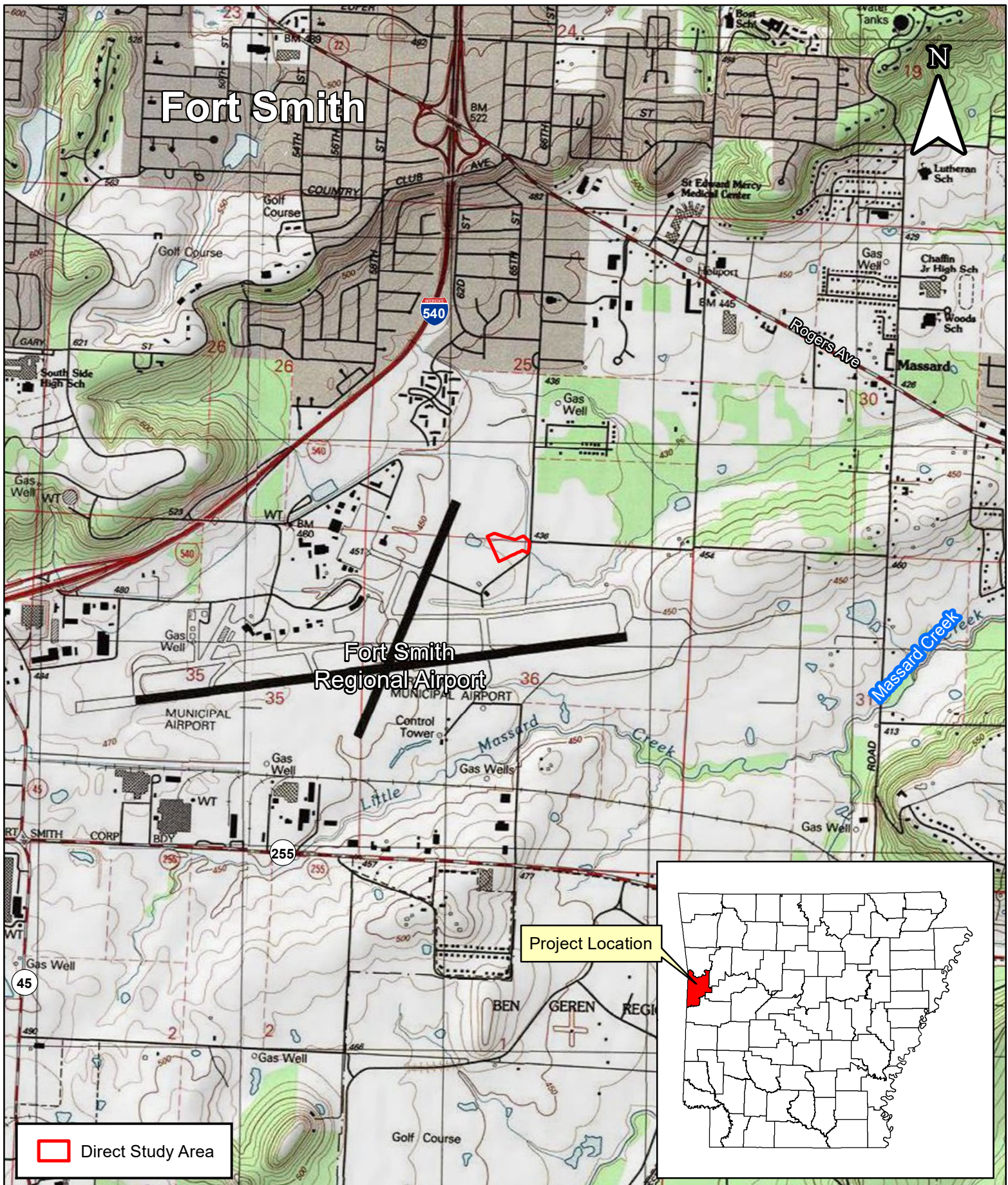


Figure 1



FEMA FLOODPLAIN, NRCS SOILS, & NWI MAP

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

2022 Aerial Imagery; ESRI GIS INFORMATION

Lat: 35.340650°
Long: -94.361511°

0 100 200
Feet

Figure 2



WETLAND DELINEATION OVERVIEW MAP

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

2022 Aerial Imagery; ESRI GIS INFORMATION

Lat: 35.340650°
Long: -94.361511°

0 100 200
Feet

Figure 3

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp:11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
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Project/Site: <u>FSM Solar Array</u>	City/County: <u>Fort Smith / Sebastian</u>	Sampling Date: <u>3/7/2023</u>
Applicant/Owner: <u>City of Fort Smith</u>	State: <u>AR</u>	Sampling Point: <u>DP 1</u>
Investigator(s): <u>Colby Marshall</u>	Section, Township, Range: <u>S25 T8N R32W</u>	
Landform (hillside, terrace, etc.): <u>depression</u>	Local relief (concave, convex, none): <u>concave</u>	Slope (%): <u><1</u>
Subregion (LRR or MLRA): <u>LRR N, MLRA 118A</u>	Lat: <u>35.343297°</u>	Long: <u>-94.362382°</u>
Soil Map Unit Name: <u>Wrightsville-Messer silt loams complex, 0 to 1 percent slopes</u>		NWI classification: <u>n/a</u>
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>X</u> No <u> </u> (If no, explain in Remarks.)		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No <u> </u>		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> naturally problematic? (If needed, explain any answers in Remarks.)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Site meets all three criteria and is in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) </div> <div style="width: 45%;"> <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Site meets wetland hydrology criteria.	

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: DP 1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5'</u>)																				
1. <i>Setaria parviflora</i>	60	Yes	FAC	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Carex sp.*</i>	20	Yes	FACW																	
3. <i>Ranunculus sardous</i>	10	No	FAC																	
4. <i>Allium canadense</i>	5	No	FACU																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
95 =Total Cover																				
50% of total cover: <u>48</u> 20% of total cover: <u>19</u>																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.) *Of the 92 species of <i>Carex</i> listed in the 2020 USACE Plants List for the EMP region in Arkansas, 82% are FAC or wetter with the majority being FACW. Site maintained by mowing. Site meets hydrophytic vegetation criteria.																				

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4/2	100					Loamy/Clayey	
2-6	10YR 5/2	85	10YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
6-9	10YR 5/2	60	10YR 5/8	30	C	M	Loamy/Clayey	Prominent redox concentrations
9-14	10YR 5/1	92	10YR 5/6	8	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7)

☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Mucky Mineral (F1) (**MLRA 136**)
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 122, 136**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

2-6" layer also contains 5% 10YR 2/2 in the matrix. 6-9" layer also contains 10% 10YR 2/2 in the matrix. Soils appear mixed from historic disturbance. Native soils at 9". Site meets hydric soil criteria.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp:11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
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Project/Site: <u>FSM Solar Array</u>	City/County: <u>Fort Smith / Sebastian</u>	Sampling Date: <u>3/7/2023</u>
Applicant/Owner: <u>City of Fort Smith</u>	State: <u>AR</u>	Sampling Point: <u>DP 2</u>
Investigator(s): <u>Colby Marshall</u>	Section, Township, Range: <u>S25 T8N R32W</u>	
Landform (hillside, terrace, etc.): <u>microhigh</u>	Local relief (concave, convex, none): <u>convex</u>	Slope (%): <u><1</u>
Subregion (LRR or MLRA): <u>LRR N, MLRA 118A</u>	Lat: <u>35.343286°</u>	Long: <u>-94.362300°</u> Datum: <u>WGS 84</u>
Soil Map Unit Name: <u>Wrightsville-Messer silt loams complex, 0 to 1 percent slopes</u>	NWI classification: <u>n/a</u>	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>X</u> No <u> </u> (If no, explain in Remarks.)		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No <u> </u>		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> naturally problematic? (If needed, explain any answers in Remarks.)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	<table style="width:100%;"> <tr> <td style="width:60%;">Is the Sampled Area within a Wetland?</td> <td style="width:40%;">Yes <u> </u> No <u>X</u></td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>		
Remarks: Site does not meet all three criteria and is not in a wetland.			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <u> </u> Surface Water (A1) <u> </u> High Water Table (A2) <u> </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) </div> <div style="width: 50%;"> <u> </u> True Aquatic Plants (B14) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)		
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	<table style="width:100%;"> <tr> <td style="width:60%;">Wetland Hydrology Present?</td> <td style="width:40%;">Yes <u> </u> No <u>X</u></td> </tr> </table>	Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Site does not meet wetland hydrology criteria.			

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: DP 2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>280</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.55</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>70</u>	x 2 = <u>140</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>280</u> (B)	Prevalence Index = B/A = <u>2.55</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>70</u>	x 2 = <u>140</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>110</u> (A)	<u>280</u> (B)																			
Prevalence Index = B/A = <u>2.55</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5'</u>)																				
1. <i>Diodia virginiana</i>	70	Yes	FACW																	
2. <i>Setaria pumila</i>	20	No	FAC																	
3. <i>Cynodon dactylon</i>	20	No	FACU																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
110 =Total Cover																				
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.) Site meets hydrophytic vegetation criteria.																				

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 4/3	96	10YR 5/6	4	C	M	Loamy/Clayey	Distinct redox concentrations
7-10	10YR 4/3	60	10YR 5/8	5	C	M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 4/3	50	10YR 5/6	5	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 127, 147, 148)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes _____ No X**Remarks:**

7-10" layer contains 10YR 5/4 clay. 10-14" layer also contains 20% 10YR 5/4 and 25% 5/2 in the matrix. Site does not meet hydric soil criteria.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: <u>FSM Solar Array</u>	City/County: <u>Fort Smith / Sebastian</u>	Sampling Date: <u>3/7/2023</u>
Applicant/Owner: <u>City of Fort Smith</u>	State: <u>AR</u>	Sampling Point: <u>DP 3</u>
Investigator(s): <u>Colby Marshall</u>	Section, Township, Range: <u>S25 T8N R32W</u>	
Landform (hillside, terrace, etc.): <u>depression</u>	Local relief (concave, convex, none): <u>concave</u>	Slope (%): <u><1</u>
Subregion (LRR or MLRA): <u>LRR N, MLRA 118A</u>	Lat: <u>35.342739°</u>	Long: <u>-94.361626°</u> Datum: <u>WGS 84</u>
Soil Map Unit Name: <u>Wrightsville-Messer silt loams complex, 0 to 1 percent slopes</u>	NWI classification: <u>n/a</u>	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>X</u> No <u> </u> (If no, explain in Remarks.)		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No <u> </u>		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> naturally problematic? (If needed, explain any answers in Remarks.)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Site does not meet all three criteria and is not in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <u> </u> Surface Water (A1) <u> </u> High Water Table (A2) <u>X</u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) </div> <div style="width: 48%;"> <u> </u> True Aquatic Plants (B14) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u>X</u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>13</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Saturation possibly due to recent rains. Site meets wetland hydrology criteria.	

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: DP 3

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5'</u>)																				
1. <i>Diodia virginiana</i>	80	Yes	FACW																	
2. <i>Andropogon virginicus</i>	15	No	FACU																	
3. <i>Setaria parviflora</i>	10	No	FAC																	
4. <i>Claytonia virginica</i>	5	No	FAC																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
110 =Total Cover																				
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.) Site meets hydrophytic vegetation criteria.																				

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP 3**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 4/3	98	10YR 5/6	2	C	M	Loamy/Clayey	Distinct redox concentrations
14-16	2.5YR 5/3	98	10YR 5/6	2	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> (outside MLRA 127, 147, 148)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: _____
Depth (inches): _____Hydric Soil Present? Yes _____ No X

Remarks:

Site does not meet hydric soil criteria.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: FSM Solar Array City/County: Fort Smith / Sebastian Sampling Date: 3/7/2023
Applicant/Owner: City of Fort Smith State: AR Sampling Point: DP 4
Investigator(s): Colby Marshall Section, Township, Range: S25 T8N R32W
Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35.341613° Long: -94.361939° Datum: WGS 84
Soil Map Unit Name: Wrightsville-Messer silt loams complex, 0 to 1 percent slopes NWI classification: n/a
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: Site meets all three criteria and is in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> True Aquatic Plants (B14) <u>X</u> High Water Table (A2) <u> </u> Hydrogen Sulfide Odor (C1) <u>X</u> Saturation (A3) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Water Marks (B1) <u> </u> Presence of Reduced Iron (C4) <u> </u> Sediment Deposits (B2) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Drift Deposits (B3) <u> </u> Thin Muck Surface (C7) <u> </u> Algal Mat or Crust (B4) <u> </u> Other (Explain in Remarks) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u>X</u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Site meets wetland hydrology criteria.	

Sampling Point: DP 4

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
		=Total Cover	
50% of total cover: _____		20% of total cover: _____	
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
		=Total Cover	
50% of total cover: _____		20% of total cover: _____	
Herb Stratum (Plot size: 5')			
1. <i>Andropogon glomeratus</i>	35	Yes	FACW
2. <i>Allium canadense</i>	15	Yes	FACU
3. <i>Ranunculus sardous</i>	15	Yes	FAC
4. <i>Carex sp.*</i>	5	No	FACW
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		70 =Total Cover	
50% of total cover: 35		20% of total cover: 14	
Woody Vine Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		=Total Cover	
50% of total cover: _____		20% of total cover: _____	

Remarks: (Include photo numbers here or on a separate sheet.)

*Of the 92 species of *Carex* listed in the 2020 USACE Plants List for the EMP region in Arkansas, 82% are FAC or wetter with the majority being FACW. Maintained by mowing. Site meets hydrophytic vegetation criteria.

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
Total Number of Dominant Species Across All Strata:	3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7% (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	
Hydrophytic Vegetation Indicators:	
_____ 1 - Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
_____ 3 - Prevalence Index is ≤3.0 ¹	
_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Four Vegetation Strata:	
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody Vine – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation	
Present?	Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: DP 4**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100					Loamy/Clayey	
1-8	10YR 5/2	94	10YR 5/6	6	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> (outside MLRA 127, 147, 148)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: _____
Depth (inches): _____Hydric Soil Present? Yes ☒ No ☐**Remarks:**

Site meets hydric soil criteria.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: <u>FSM Solar Array</u>	City/County: <u>Fort Smith / Sebastian</u>	Sampling Date: <u>3/7/2023</u>
Applicant/Owner: <u>City of Fort Smith</u>	State: <u>AR</u>	Sampling Point: <u>DP 5</u>
Investigator(s): <u>Colby Marshall</u>	Section, Township, Range: <u>S25 T8N R32W</u>	
Landform (hillside, terrace, etc.): <u>microhigh</u>	Local relief (concave, convex, none): <u>convex</u>	Slope (%): <u><1</u>
Subregion (LRR or MLRA): <u>LRR N, MLRA 118A</u>	Lat: <u>35.341575°</u>	Long: <u>-94.361909°</u> Datum: <u>WGS 84</u>
Soil Map Unit Name: <u>Wrightsville-Messer silt loams complex, 0 to 1 percent slopes</u>	NWI classification: <u>n/a</u>	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>X</u> No <u> </u> (If no, explain in Remarks.)		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No <u> </u>		
Are Vegetation <u> </u> , Soil <u> </u> , or Hydrology <u> </u> naturally problematic? (If needed, explain any answers in Remarks.)		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Site does not meet all three criteria and is not in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <u> </u> Surface Water (A1) <u>X</u> High Water Table (A2) <u>X</u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) </div> <div style="width: 48%;"> <u> </u> True Aquatic Plants (B14) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u>X</u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u> </u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>12</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Site meets wetland hydrology criteria.	

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: DP 5

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5'</u>)																				
1. <i>Cynodon dactylon</i>	60	Yes	FACU	Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Setaria parviflora</i>	35	Yes	FAC																	
3. <i>Andropogon glomeratus</i>	5	No	FACW																	
4. <i>Plantago lanceolata</i>	5	No	UPL																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
105 = Total Cover																				
50% of total cover: <u>53</u> 20% of total cover: <u>21</u>																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.) Site does not meet hydrophytic vegetation criteria.																				

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: DP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 5/3	96	10YR 5/6	4	C	M	Loamy/Clayey	Distinct redox concentrations
6-8	10YR 5/3	70	10YR 5/6	5	C	M	Loamy/Clayey	Distinct redox concentrations
8-12	10YR 5/2	96	10YR 5/6	4	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 127, 147, 148)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes _____ No X**Remarks:**

6-8" layer also contains 25% 10YR 5/2 matrix. Site does not meet hydric soil criteria.

**Record of Climatological
Observations**
These data are quality controlled and may not
be identical to the original observations.
Generated on 04/06/2023

Current Location: Elev: 448 ft. Lat: 35.3335° N Lon: -94.3653° W
Station: **FORT SMITH REGIONAL AIRPORT, AR US USW00013964** Observation Time Temperature: Unknown Observation Time Precipitation: 2400

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	02	01	32	27		T		T		T								
2023	02	02	38	31		0.04		T		0.0								
2023	02	03	47	26		0.00		0.0		0.0								
2023	02	04	57	31		0.00		0.0		0.0								
2023	02	05	67	32		0.00		0.0		0.0								
2023	02	06	70	40		0.00		0.0		0.0								
2023	02	07	58	49		0.59		0.0		0.0								
2023	02	08	54	44		1.96		0.0		0.0								
2023	02	09	60	38		0.00		0.0		0.0								
2023	02	10	48	40		0.20		0.0		0.0								
2023	02	11	54	34		0.00		0.0		0.0								
2023	02	12	64	29		0.00		0.0		0.0								
2023	02	13	66	36		0.00		0.0		0.0								
2023	02	14	66	50		0.46		0.0		0.0								
2023	02	15	78	42		0.00		0.0		0.0								
2023	02	16	66	32		0.37		0.0		0.0								
2023	02	17	48	30		0.00		0.0		0.0								
2023	02	18	54	27		0.00		0.0		0.0								
2023	02	19	68	34		0.00		0.0		0.0								
2023	02	20	74	51		0.00		0.0		0.0								
2023	02	21	77	46		0.00		0.0		0.0								
2023	02	22	75	52		0.33		0.0		0.0								
2023	02	23	55	39		T		0.0		0.0								
2023	02	24	46	37		T		0.0		0.0								
2023	02	25	54	43		0.00		0.0		0.0								
2023	02	26	71	50		T		0.0		0.0								
2023	02	27	75	50		0.08		0.0		0.0								
2023	02	28	83	42		0.00		0.0		0.0								
Summary			61	39		4.03		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCEI's quality control tests.

"At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

**Record of Climatological
Observations**
These data are quality controlled and may not
be identical to the original observations.

Current Location: Elev: 448 ft. Lat: 35.3335° N Lon: -94.3653° W
Station: **FORT SMITH REGIONAL AIRPORT, AR US USW00013964**

Generated on 04/06/2023

Observation Time Temperature: Unknown Observation Time Precipitation: 2400

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	03	01	69	51		T		0.0		0.0								
2023	03	02	69	55		1.03		0.0		0.0								
2023	03	03	55	39		0.73		0.0		0.0								
2023	03	04	64	37		0.00		0.0		0.0								
2023	03	05	78	46		0.00		0.0		0.0								
2023	03	06	80	49		0.00		0.0		0.0								
2023	03	07	72	55		0.00		0.0		0.0								
2023	03	08	58	50		0.15		0.0		0.0								
2023	03	09	56	47		0.83		0.0		0.0								
2023	03	10	63	40		0.00		0.0		0.0								
2023	03	11	53	47		T		0.0		0.0								
2023	03	12	56	42		0.00		0.0		0.0								
2023	03	13	53	36		0.00		0.0		0.0								
2023	03	14	54	36		0.00		0.0		0.0								
2023	03	15	64	36		0.00		0.0		0.0								
2023	03	16	62	41		0.60		0.0		0.0								
2023	03	17	52	35		0.00		0.0		0.0								
2023	03	18	46	32		0.00		0.0		0.0								
2023	03	19	47	25		0.00		0.0		0.0								
2023	03	20	61	27		T		0.0		0.0								
2023	03	21	52	43		0.53		0.0		0.0								
2023	03	22	80	49		0.00		0.0										
2023	03	23	81	60		0.00		0.0		0.0								
2023	03	24	63	49		3.54		0.0		0.0								
2023	03	25	68	46		0.00		0.0		0.0								
2023	03	26	75	47		0.00		0.0		0.0								
2023	03	27	68	41		0.00		0.0		0.0								
2023	03	28	62	42		0.00		0.0		0.0								
2023	03	29	69	39		0.00		0.0		0.0								
2023	03	30	75	53		0.33		0.0		0.0								
2023	03	31	86	60		T		0.0		0.0								
Summary			64	44		7.74		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

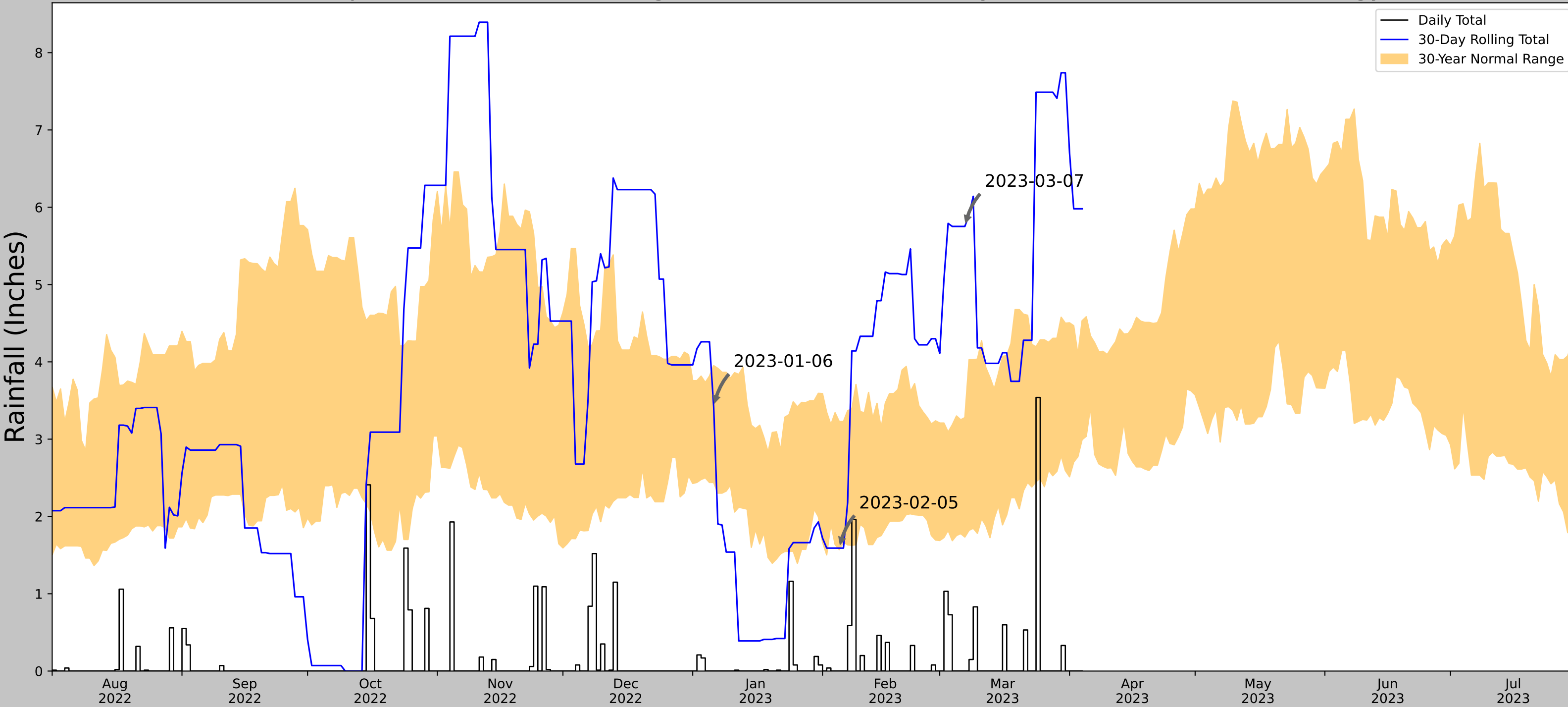
"s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.341613, -94.361747
Observation Date	2023-03-07
Elevation (ft)	438.249
Drought Index (PDSI)	Mild wetness (2023-02)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-03-07	1.733465	3.278347	5.751969	Wet	3	3	9
2023-02-05	1.570866	3.227559	1.590551	Normal	2	2	4
2023-01-06	2.43937	3.951181	3.42126	Normal	2	1	2
Result							Wetter than Normal - 15




Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
FT SMITH RGNL AP	35.3333, -94.3653	448.163	0.608	9.914	0.28	11345	90
GREENWOOD	35.2169, -94.2597	518.045	10.008	69.882	5.203	8	0

APPENDIX F

Section 404 Nationwide Permit



DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867
www.swl.usace.army.mil

October 3, 2023

Regulatory Division

NATIONWIDE PERMIT NO. SWL-2023-00186

Mr. Michael Griffin
Fort Smith Regional Airport
6700 McKennon Boulevard, Suite 200
Fort Smith, AR 72903

Dear Mr. Griffin:

Please refer to your application dated September 29, 2023, submitted on your behalf by Garver, concerning Department of the Army permit requirements pursuant to Section 404 of the Clean Water Act (33 U.S. Code 1344). You requested authorization for work, including the placement of dredged and fill material, in waters of the United States associated with a proposed solar array at Fort Smith Regional Airport. The proposed activity would result in fill to approximately 0.49 acre of emergent wetlands. The project is located in wetlands adjacent to Massard Creek, in parts of sections 25 and 36, T. 8 N., R. 32 W., Fort Smith, Sebastian County, Arkansas.

The proposed activity is authorized by Department of the Army Nationwide Permit (NWP) No. **51** (copy enclosed), provided that the conditions therein, and the following added special condition, are met. You should become familiar with the conditions and maintain a copy of the permit at the worksite for ready reference. If changes are proposed in the design or location of the facilities, you should submit revised plans to this office for approval before construction of the change begins.

Section 401 water quality certification has been issued with conditions for the referenced NWP by the Arkansas Department of Energy and Environment, Division of Environmental Quality (copy enclosed). In addition to the specific criteria and conditions of the NWP, you must comply with the conditions specified in the certification as special conditions to this permit.

Special Condition:

The permittee shall debit 3.77 credits from an approved and operating mitigation bank which services the area as a primary service area, or 5.66 credits from an approved and operating mitigation bank which services the area as a secondary service area. This debit shall compensate off-site for unavoidable adverse impacts associated with the proposed project. The permittee shall complete the mitigation bank transaction and provide documentation to the Corps that the transaction occurred prior to commencing any

ground-disturbing activity within the permit area.

Please refer to NWP General Condition No. 12, which stipulates that appropriate erosion and siltation controls be used during construction and all exposed soil be permanently stabilized. Erosion control measures must be implemented during and after construction of the proposed project to comply with this permit condition.

In order to fully comply with the conditions of the NWP, you must submit the enclosed compliance certification within 30 days of completion of the project. This is required pursuant to NWP General Condition No. 30 of the permit.

This permit action is based upon a Corps of Engineers determination that the subject work is within the jurisdiction of the Department of the Army regulatory program. You may contact the Little Rock District Regulatory Division if you wish to discuss your options for appealing this determination.

The NWP determination will be valid until March 14, 2026. If NWP No. **51** is modified, suspended, or revoked during this period, your project may not be authorized unless you have begun or are under contract to begin the project. If work has started or the work is under contract, you would then have twelve (12) months to complete the work.

The authorization of this work by a NWP does not relieve you of complying with other applicable local, state, and Federal laws, nor does it grant any property rights or exclusive privileges.

If you have any questions about this permit or any of its provisions, please contact me at (501) 340-1386 and refer to Permit No. **SWL-2023-00186**.

Please submit your comments or suggestions on our Customer Service Survey:
<https://regulatory.ops.usace.army.mil/customer-service-survey/>

Sincerely,



David Rupe
Project Manager

Enclosures

cc:

AR Dept. of Energy and Env., Div. of Envir. Quality, Water Quality Planning Branch

Proj Mgr, Beaver Lake PO
Ch, Regulatory Enf
GIS Specialist, Mr. Kyle Green
Joe Rujawitz, Garver

PERMITTEE COMPLIANCE CERTIFICATION

PERMIT NO.: SWL-2023-00186 NWP/S NO.: 51

PERMITTEE NAME: Mr. Michael Griffin, Fort Smith
Regional Airport

DATE OF ISSUANCE: October 3, 2023

PROJECT MANAGER: David Rupe

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US Army Corps of Engineers, Little Rock
ATTENTION: CESWL-RD
PO Box 867
Little Rock, Arkansas 72203-0867

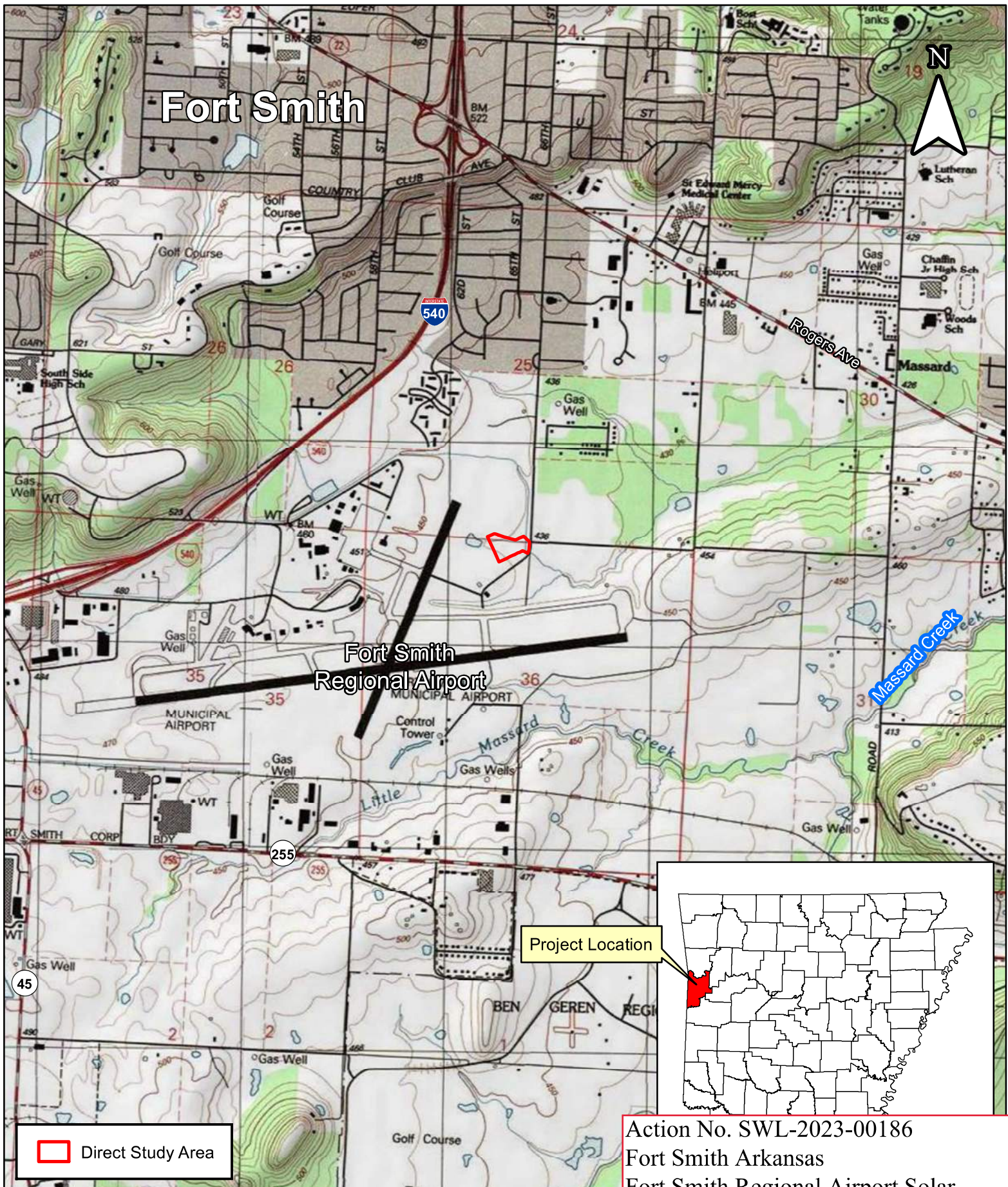
Please note that your permitted activity is subject to a compliance inspection by a US Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

DATE WORK COMPLETED: _____

SIGNATURE OF PERMITTEE

DATE

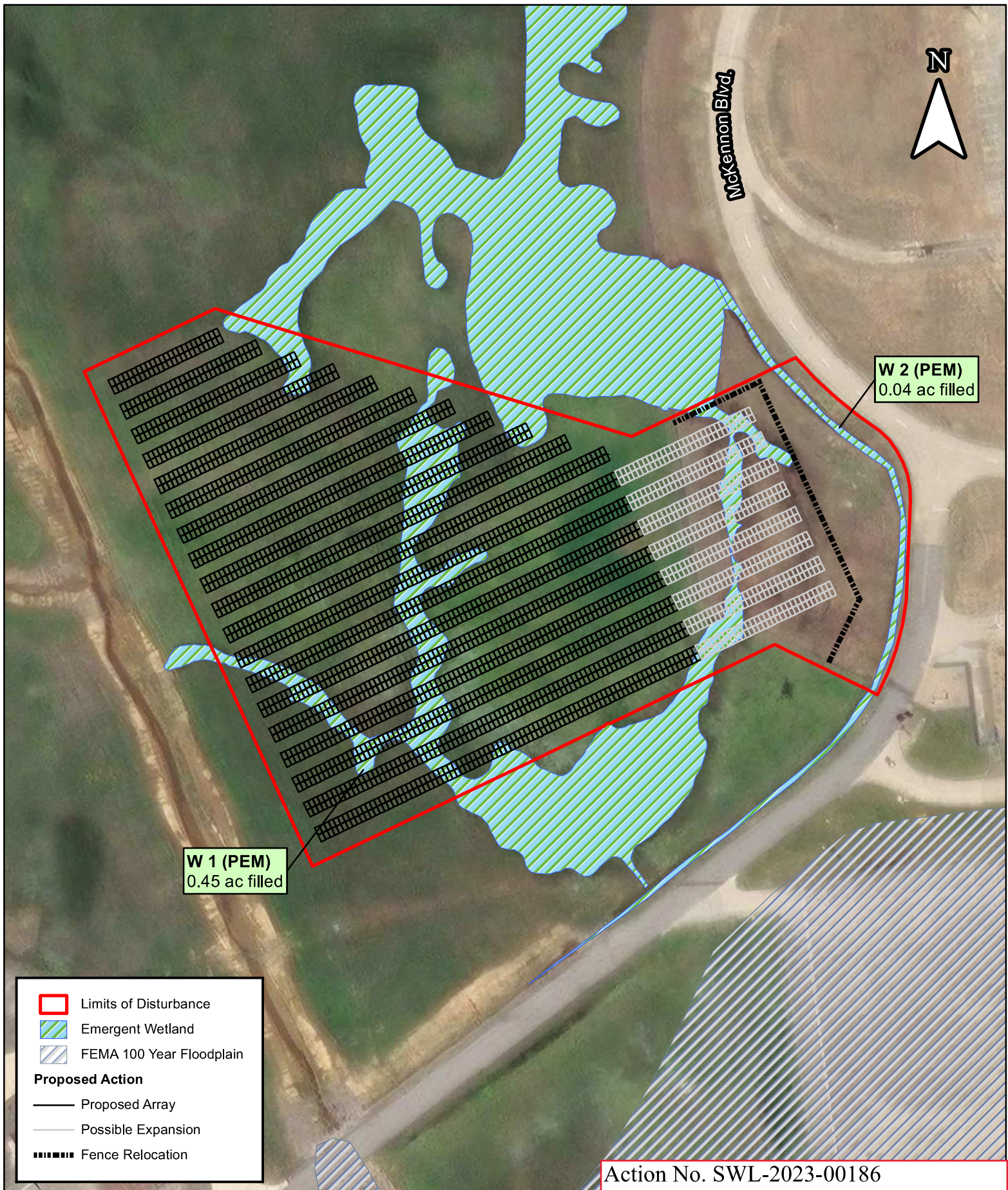


Site Location Map

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

USGS Topographic Image; ESRI GIS INFORMATION

Action No. SWL-2023-00186
Fort Smith Arkansas
Fort Smith Regional Airport Solar
Array
Sections 25 and 36, T. 8 N., R. 32 W.
October 2023
Page 1 of 3



Project Layout

Fort Smith Regional Airport Solar Array
Fort Smith, Sebastian County, Arkansas

2022 Aerial Imagery; ESRI GIS INFORMATION

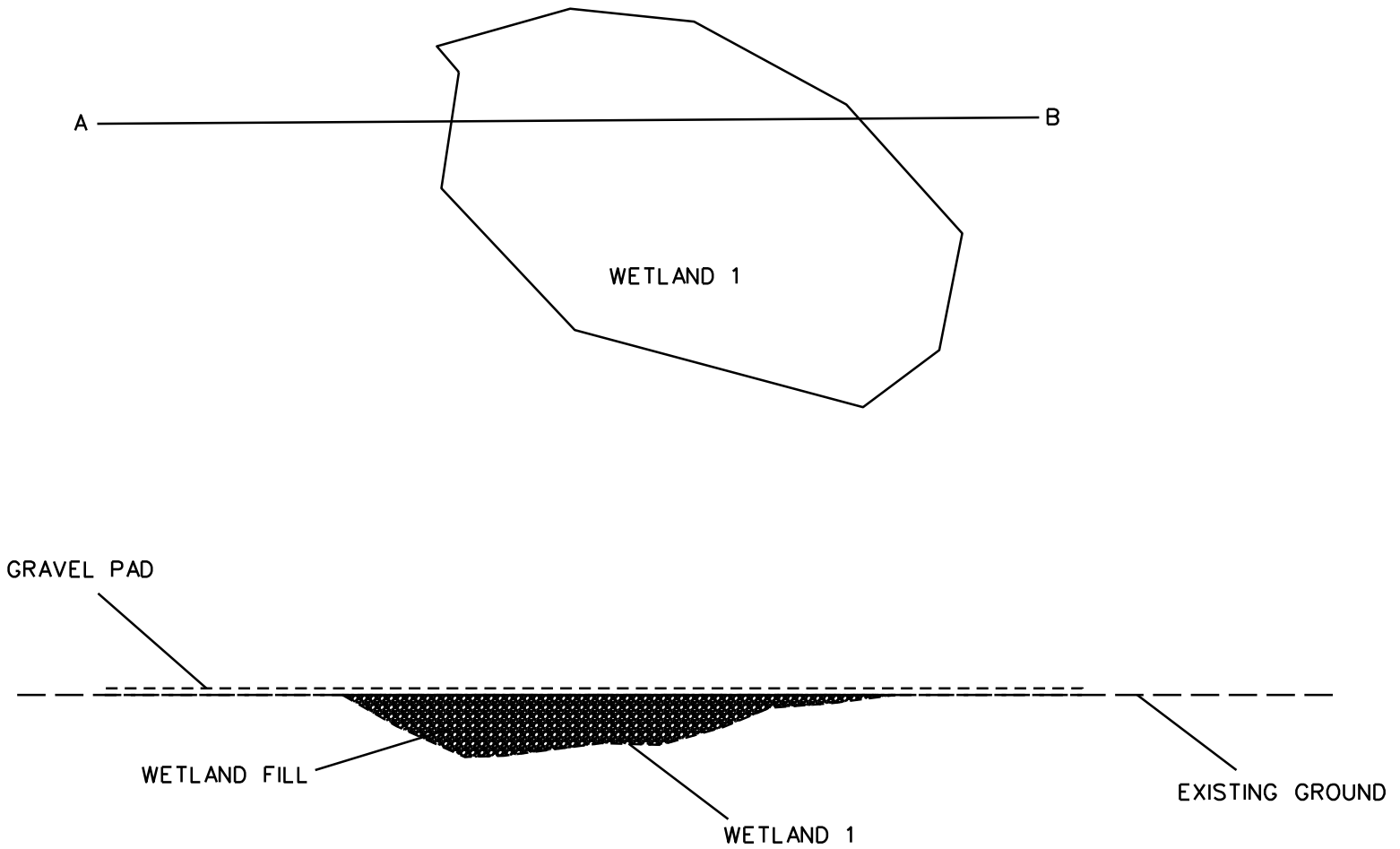
Action No. SWL-2023-00186

Fort Smith Arkansas

Fort Smith Regional Airport Solar Array
Sections 25 and 36, T. 8 N., R. 32 W.

October 2023

Page 2 of 3



WETLAND IMPACTS PLAN VIEW AND CROSS SECTION

Nationwide Permit No. 51

Land-Based Renewable Energy Generation

Facilities. Discharges of dredged or fill material into non-tidal waters of the United States for the construction, expansion, or modification of land-based renewable energy production facilities, including attendant features. Such facilities include infrastructure to collect solar (concentrating solar power and photovoltaic), wind, biomass, or geothermal energy. Attendant features may include, but are not limited to roads, parking lots, and stormwater management facilities within the land-based renewable energy generation facility.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the discharge results in the loss of greater than 1/10-acre of waters of the United States. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Electric utility lines constructed to transfer the energy from the land-based renewable energy generation facility to a distribution system, regional grid, or other facility are generally considered to be linear projects and each separate and distant crossing of a waterbody is eligible for treatment as a separate single and complete linear project. Those electric utility lines may be authorized by NWP 57 or another Department of the Army authorization.

Note 2: If the only activities associated with the construction, expansion, or modification of a land-based renewable energy generation facility that require Department of the Army authorization are discharges of dredged or fill material into waters of the United States to construct, maintain, repair, and/or remove electric utility lines and/or road crossings, then NWP 57 and/or NWP 14 shall be used if those activities meet the terms and conditions of NWPs 57 and 14, including any applicable regional conditions and any case-specific conditions imposed by the district engineer.

Note 3: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided by the Corps to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

2021 Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise

designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48 or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition,

capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed

activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district

engineer may add species-specific permit conditions to the NWP.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles.

The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)).

When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps,

after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural, or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated

critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWP's only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate, or the adverse environmental effects of the proposed activity are no more than minimal and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate, or the adverse environmental effects of the proposed activity are no more than minimal and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory

mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWP's, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the

district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an

acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the

permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification

(PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30-day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN, and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide

an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-

construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other

expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so, contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity’s compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies’ concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life, or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer’s Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the

public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands

or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that

would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse

impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s) but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses

spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of

loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction

notification is not required, and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and

services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention

ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation,

such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWP, a waterbody is a "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).



ARKANSAS ENERGY & ENVIRONMENT

November 18th, 2020

Colonel Eric M. Noe, District Commander
Little Rock District Corps of Engineers
P.O. Box 867
Little Rock, Arkansas 72203-0867

RE: Public Notice: Re-issuance of Nationwide Permits 2020

Dear Colonel Noe,

The Arkansas Department of Energy and Environment (E&E), Division of Environmental Quality (DEQ) has completed its review of the above referenced public notice for re-issuance of the U.S. Army Corps of Engineers Nationwide Permits (NWP) for the State of Arkansas.

DEQ has determined discharges from projects covered under these NWP will comply with water quality requirements according to Arkansas Pollution Control and Ecology Commission's (APC&EC) Rule 2.

Therefore, pursuant to §401(a)(1) of the Clean Water Act, the DEQ hereby issues water quality certification for all NWP, contingent upon the following conditions:

- 1) An individual water quality certification request must be submitted to DEQ for activities which may impact Extraordinary Resource Waters, Ecologically Sensitive Waterbodies, and Natural Scenic Waterways as identified in APC&EC Rule 2, Water Quality Standards for Surface Waters of the State of Arkansas. In order to determine compliance with the standards set forth in APC&EC Rule 2.203 for these Outstanding Resource Waters, projects covered under NWP on these waters shall be reviewed by DEQ.
- 2) In accordance with APC&EC Rule 2.305, the applicant shall obtain a Short Term Activity Authorization (STAA) when performing work in the wetted area of waters of the state as defined by Arkansas Code Annotated (A.C.A.) §8-4-102. Activities approved under a STAA, are subject to the provisions that no permanent or long-term impairment of beneficial uses is likely to result from such activity. More information can be obtained by visiting <https://www.adeq.state.ar.us/water/planning/instream/> or <https://portal.adeq.state.ar.us/>.
- 3) The applicant shall implement all practicable best management practices (BMPs) to avoid excessive impacts of turbidity to waters of the state, 40 CFR §122.26(c).
- 4) The applicant will take all reasonable measures to prevent the spillage or leakage of any chemicals, oil, grease, gasoline, diesel, or other fuel in accordance with A.C.A. §8-4-217. In the unlikely event such spillage or leakage occurs, the applicant must contact E&E Emergency Response at 501-682-0716 immediately.

- 5) If a construction site will disturb equal to or greater than one (1) acre and less than five (5) acres, the applicant shall comply with the requirements in APC&EC Rule 6.203 for Stormwater discharge associated with a small construction site, as defined in APC&EC Rule No. 6. If the construction site will disturb five (5) acres or more, the applicant shall comply with the terms of the Stormwater Construction General Permit Number ARR150000 prior to the start of construction. BMPs must be implemented regardless of the size. More information can be obtained by contacting the NPDES Stormwater Section of DEQ at (501) 682-0623.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Blanz', with a stylized flourish at the end.

Robert E. Blanz, Ph.D., P.E.
Associate Director, Office of Water Quality

Cc: Sarah Chitwood, Regulatory Division Chief USACE
Lisa Boyle, Project Manager USACE
Wanda Boyd, U.S. EPA

**NATIONWIDE PERMIT REGIONAL CONDITIONS
FOR THE STATE OF ARKANSAS**

Regional Condition No. 1. For Nationwide Permits (NWPs) 7, 12, 57, and 58, intake structures shall be constructed with screening to prevent the entry of fish.

Regional Condition No. 2. For NWPs No. 4, 5, 12, 13, 14, 15, 18, 19, 20, 23, 25, 30, 35, 36, 51, 57, and 58, and in the following listed waters, when federally jurisdictional, the prospective permittee shall provide written notification to the appropriate District. Notification will be to the District Engineer according to *General Condition No. 32 (Federal Register, Vol. 86, No. 8, FR 2744-2877)*.

- **Fens** - A peat-accumulating wetland that receives some drainage from surrounding mineral soil and usually supports marshlike vegetation.
- **Bogs** - A peat-accumulating wetland that has no major inflows or outflows and supports acidophilic mosses, particularly sphagnum.
- **Groundwater seeps** - Wetlands at the base of steep slopes where the groundwater surface intersects with the land surface.
- **Dune depressional wetlands** - Wetlands in shallow depressions that have no major outflows but receive runoff from the surrounding land, located between sandy ridges in northeast Arkansas and southeast Missouri. These wetlands often support pondberry (*Lindera melissifolia*), a federally-listed endangered plant.
- **Cache River and adjacent wetlands** - From the mouth upstream to AR Highway 18 near Grubbs.

Regional Condition No. 3. NWP No. 44 cannot be used to authorize mining activities within areas of government-managed navigation systems on rivers designated as navigable under the Rivers and Harbors Act of 1899 (33 U.S. Code 403).

Regional Condition No. 4. Federally listed threatened or endangered species are known to occur in the waters listed below. For NWPs No. 3, 4, 5, 6, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 25, 27, 30, 33, 35, 36, 37, 41, 48, 51, 57, and 58, the prospective permittee shall provide written notification to the appropriate District in order to comply with NWP General Condition No. 18. Notification will be to the District Engineer according to *General Condition No. 32 (Federal Register, Vol. 86, No. 8, FR 2744-2877)*. This notification shall be used to review the project to ensure that the proposed project will have "no effect" on federally listed threatened or endangered (T&E) species and to determine if the project would have a minimal impact on the aquatic environment. The application will be coordinated with the U.S. Fish and Wildlife Service and other agencies as determined appropriate by the Corps of Engineers. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section

7 of the Endangered Species Act consultation addressing the effects of the proposed activity has been completed (refer to NWP General Condition No. 18). The list of waters may be revised periodically in the case of future updates to the status of T&E species.

Waterbody	County	Species
Caves/Karst	Benton, Washington	<i>Cambarus aculabrum</i> (Benton County Cave Crayfish), <i>Troglichthys rosae</i> (Ozark Cave Crayfish)
Caves/Karst	Marion, Stone	<i>Cambarus zophonastes</i> (Hell Creek Crayfish)
Wetlands	Ashley, Clay, Craighead, Crittenden, Jackson, Lawrence, Poinsett, Woodruff	<i>Lindera melissifolia</i> (Pondberry)

Stream Name	County	Species
Alum Fork Saline River	Saline	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
Archey Creek	Van Buren	<i>Etheostoma moorei</i> (yellowcheek darter), <i>Lampsilis streckeri</i> (Speckled Pocketbook)
Arkansas River	Arkansas, Conway, Crawford, Desha, Faulkner, Franklin, Jefferson, Johnson, Lincoln, Logan, Perry, Pope, Pulaski, Sebastian, Yell	<i>Scaphirhynchus albus</i> (pallid sturgeon)
Beech Creek	Cleburne, Stone	<i>Etheostoma moorei</i> (yellowcheek darter), <i>Lampsilis streckeri</i> (Speckled Pocketbook)
Big Brushy Creek	Montgomery	<i>Ptilimnium nodosum</i> (harperella)
Big Creek	Cleburne	<i>Lampsilis streckeri</i> (Speckled Pocketbook)
Black River	Clay, Lawrence, Randolph	<i>Cryptobranchus alleganiensis bishopi</i> (Ozark Hellbender), <i>Epioblasma triquetra</i> (Snuffbox), <i>Lampsilis abrupta</i> (Pink Mucket), <i>Leptodea leptodon</i> (Scaleshell), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Brush Creek	Perry	<i>Ptilimnium nodosum</i> (harperella)
Buffalo Creek	Polk	<i>Percina pantherina</i> (leopard darter)
Buffalo River	Marion, Newton, Searcy	<i>Epioblasma triquetra</i> (Snuffbox), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Caddo River Above DeGray Lake	Clark, Montgomery, Pike	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
Caddo River Below DeGray Lake	Clark	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
Cane Island Slough Ditch	Craighead	<i>Theliderma cylindrica</i> (Rabbitsfoot)
Clear Fork	Scott	<i>Ptilimnium nodosum</i> (harperella)
Cossatot River Above Gillham Lake	Howard, Polk	<i>Percina pantherina</i> (leopard darter)
Cossatot River Below Gillham Lake	Howard, Sevier	<i>Leptodea leptodon</i> (Scaleshell), <i>Quadrula fragosa</i> (Winged Mapleleaf), <i>Theliderma cylindrica</i> (Rabbitsfoot)

Stream Name	County	Species
Current River	Clay, Randolph	<i>Lampsilis abrupta</i> (Pink Mucket), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Devils Fork Little Red River	Cleburne	<i>Etheostoma moorei</i> (yellowcheek darter)
Dry Fork Fourche LaFave River	Perry, Yell	<i>Ptilimnium nodosum</i> (harperella)
Eleven Point River	Randolph	<i>Cryptobranchus alleganiensis bishopi</i> (Ozark Hellbender), <i>Lampsilis abrupta</i> (Pink Mucket)
Fiddlers Creek	Montgomery, Yell	<i>Ptilimnium nodosum</i> (harperella)
Fourche LaFave River	Scott, Yell	<i>Ptilimnium nodosum</i> (harperella)
Frog Bayou	Crawford	<i>Leptodea leptodon</i> (Scaleshell)
Illinois River	Benton, Washington	<i>Lampsilis rafinesqueana</i> (Neosho Mucket), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Irons Fork	Polk	<i>Ptilimnium nodosum</i> (harperella)
Irons Fork Ouachita River	Garland, Montgomery, Yell	<i>Ptilimnium nodosum</i> (harperella)
Kings River	Carroll, Madison	<i>Epioblasma triquetra</i> (Snuffbox), <i>Theliderma cylindrica</i> (Rabbitsfoot)
L' Anguille River	Lee	<i>Potamilus capax</i> (Fat Pocketbook)
Left Hand Chute Little River	Mississippi, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
Little Brushy Creek	Montgomery	<i>Ptilimnium nodosum</i> (harperella)
Little Missouri River below Lake Greeson	Clark, Hempstead, Nevada, Ouachita, Pike	<i>Lampsilis abrupta</i> (Pink Mucket), <i>Quadrula fragosa</i> (Winged Mapleleaf), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Little River Above Millwood Lake	Little River, Sevier	<i>Arcidens wheeleri</i> (Ouachita Rock Pocketbook), <i>Lampsilis abrupta</i> (Pink Mucket), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Little River Below Millwood Lake	Hempstead, Little River	<i>Arcidens wheeleri</i> (Ouachita Rock Pocketbook)
Middle Fork Little Red River	Cleburne, Searcy, Stone, Van Buren	<i>Etheostoma moorei</i> (yellowcheek darter), <i>Lampsilis streckeri</i> (Speckled Pocketbook), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Middle Fork Saline River	Garland, Saline	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
Mississippi River	Chicot, Crittenden, Desha, Lee, Mississippi, Phillips	<i>Potamilus capax</i> (Fat Pocketbook), <i>Scaphirhynchus albus</i> (pallid sturgeon)
Mountain Fork River	Polk	<i>Percina pantherina</i> (leopard darter)
Muddy Creek	Montgomery	<i>Ptilimnium nodosum</i> (harperella)
Muddy Fork Illinois River	Washington	<i>Lampsilis rafinesqueana</i> (Neosho Mucket)
Myatt Creek	Fulton	<i>Leptodea leptodon</i> (Scaleshell)
North Fork Creek	Garland	<i>Ptilimnium nodosum</i> (harperella)
North Fork Ouachita River	Montgomery	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
North Fork Saline River	Perry, Saline	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
Ouachita River, Lower	Bradley, Calhoun, Clark, Dallas, Hot Spring, Ouachita, Union	<i>Arcidens wheeleri</i> (Ouachita Rock Pocketbook), <i>Lampsilis abrupta</i> (Pink Mucket), <i>Lampsilis powellii</i>

Stream Name	County	Species
		(Arkansas Fatmucket), <i>Margaritifera monodonta</i> (Spectaclecase), <i>Quadrula fragosa</i> (Winged Mapleleaf), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Ouachita River, Upper	Montgomery, Polk	<i>Lampsilis powellii</i> (Arkansas Fatmucket), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Rainy Creek	Montgomery	<i>Ptilimnium nodosum</i> (harperella)
Right Hand Chute Little River, Ditches, and Sand Slu	Craighead, Mississippi, Poinsett	<i>Leptodea leptodon</i> (Scaleshell), <i>Potamilus capax</i> (Fat Pocketbook)
Robinson Creek	Polk, Sevier	<i>Percina pantherina</i> (leopard darter)
Rolling Fork Below DeQueen Reservoir	Sevier	<i>Theliderma cylindrica</i> (Rabbitsfoot)
Saline River	Ashley, Bradley, Cleveland, Dallas, Drew, Grant, Saline	<i>Lampsilis abrupta</i> (Pink Mucket), <i>Lampsilis powellii</i> (Arkansas Fatmucket), <i>Quadrula fragosa</i> (Winged Mapleleaf), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Saline River Below Dierks Reservoir	Howard, Sevier	<i>Leptodea leptodon</i> (Scaleshell), <i>Theliderma cylindrica</i> (Rabbitsfoot)
South Fork Little Red River	Van Buren	<i>Etheostoma moorei</i> (yellowcheek darter), <i>Lampsilis streckeri</i> (Speckled Pocketbook)
South Fork Ouachita River	Montgomery	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
South Fork Saline River	Garland, Saline	<i>Lampsilis powellii</i> (Arkansas Fatmucket)
South Fork Spring River	Fulton, Sharp	<i>Epioblasma curtisii</i> (Curtis Pearlymussel), <i>Leptodea leptodon</i> (Scaleshell), <i>Theliderma cylindrica</i> (Rabbitsfoot)
South Fourche LaFave River	Perry, Yell	<i>Leptodea leptodon</i> (Scaleshell), <i>Ptilimnium nodosum</i> (harperella)
Spring River	Fulton, Lawrence, Randolph, Sharp	<i>Cryptobranchus alleganiensis bishopi</i> (Ozark Hellbender), <i>Epioblasma curtisii</i> (Curtis Pearlymussel), <i>Epioblasma triquetra</i> (Snuffbox), <i>Lampsilis abrupta</i> (Pink Mucket), <i>Leptodea leptodon</i> (Scaleshell), <i>Theliderma cylindrica</i> (Rabbitsfoot)
St. Francis River	Clay, Crittenden, Cross, Greene, Lee, Phillips, Poinsett, St. Francis	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Clark Corner Cutoff	St. Francis	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Cross County Ditch	Cross	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Ditch No 10	Craighead, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Ditch No 123	Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Ditch No 60	Craighead, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Ditch No 61	Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Ditch No 9	Craighead, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)

Stream Name	County	Species
St. Francis River, Iron Mines Creek	Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Little Bay Ditch	Craighead, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Little Slough Ditch	Craighead	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, St. Francis Bay	Cross	<i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, St. Francis Floodway	Lee, St. Francis	<i>Leptodea leptodon</i> (Scaleshell), <i>Potamilus capax</i> (Fat Pocketbook)
St. Francis River, Straight Slough	Cross, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
Strawberry River	Fulton, Independence, Izard, Lawrence, Sharp	<i>Epioblasma triquetra</i> (Snuffbox), <i>Leptodea leptodon</i> (Scaleshell), <i>Theliderma cylindrica</i> (Rabbitsfoot)
Turkey Creek	Stone	<i>Etheostoma moorei</i> (yellowcheek darter), <i>Lampsilis streckeri</i> (Speckled Pocketbook)
Tyronza River	Crittenden, Cross, Mississippi, Poinsett	<i>Potamilus capax</i> (Fat Pocketbook)
War Eagle Creek	Benton, Madison, Washington	<i>Theliderma cylindrica</i> (Rabbitsfoot)
White River, downstream of Dam No. 3	Arkansas, Independence, Izard, Jackson, Monroe, Phillips, Prairie, Stone, White, Woodruff	<i>Cryptobranchus alleganiensis bishopi</i> (Ozark Hellbender), <i>Epioblasma triquetra</i> (Snuffbox), <i>Lampsilis abrupta</i> (Pink Mucket), <i>Leptodea leptodon</i> (Scaleshell), <i>Potamilus capax</i> (Fat Pocketbook), <i>Theliderma cylindrica</i> (Rabbitsfoot)

Nomenclatural changes

Scientific Name on Previous list	Current Scientific Name
<i>Amblyobis rosae</i>	<i>Troglichthys rosae</i>
<i>Cumberlandia monodonta</i>	<i>Margaritifera monodonta</i>
<i>Epioblasma florentina curtisii</i>	<i>Epioblasma curtisii</i>
<i>Quadrula cylindrica cylindrica</i>	<i>Theliderma cylindrica</i>

APPENDIX G

Public Involvement, Comments, and Responses

LOCALiQ

Times Record

PO Box 631826 Cincinnati, OH 45263-1826

PROOF OF PUBLICATION

Jonathan Hetzel
2206 Cherry Xing
Benton AR 72015

STATE OF ARKANSAS, COUNTY OF SEBASTIAN

The Times Record, a daily newspaper having a second class mailing privilege, published at a fixed place of business and at fixed daily intervals continuously in the City of Fort Smith, Sebastian County, Arkansas, for more than a period of twelve months, circulated and distributed from an established place of business to subscribers and readers generally of all classes, in the city and county aforesaid. The Times Record is circulated in the Counties of Crawford, Franklin, Johnson, Logan, Polk, Scott and Sebastian in Arkansas. It is further stated that the legal notice hereto attached was published in the regular issues of said newspaper on the issues dated:

10/20/2023

Sworn to and subscribed before on 10/20/2023

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My commission expires

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State of Wisconsin

NOTICE OF OPPORTU-
NITY TO REVIEW DRAFT
ENVIRONMENTAL
ASSESSMENT AND/OR
REQUEST FOR A PUBLIC
HEARING

Fort Smith Regional Airport
(FSM) Commission
Fort Smith Regional Airport
Solar Array Project
Fort Smith, Sebastian
County, Arkansas

The Fort Smith Regional
Airport (FSM) Commission
is providing public notice of
the availability of the Draft
Environmental Assessment
(DEA) for the Solar Array
Project.

The purpose of the Proposed
Action is to establish a solar
array energy system that
will supplement the terminal
building's existing and fore-
casted electrical demand,
reduce the airports reliance
on fossils, and move the
airport toward the use of
renewable energy.

The DEA is available as
a hard copy or online for
public review and comment
for 30 days through Sunday,
November 19, 2023.

Website: <https://flyfsm.com/>
Hard Copy Location: Fort
Smith Regional Airport
(Administration Offices),
6700 McKennon Boulevard,
Suite #200, Fort Smith, AR
72903 (Open 8 a.m. to 4:30
p.m.)

Use the following contact
information to provide
comments. Any comments
should be received or post-
marked by Sunday, Novem-
ber 19, 2023.

Adam White
2049 East Joyce Boulevard,
Suite 400
Fayetteville, AR 72703
479.287.4635

ATWhite@GarverUSA.com

A public hearing will only
be held if requested. Those
wishing to request a public
hearing on the project
must make their request by
email or letter no later than
Sunday, November 19, 2023,
which is 30 days after the
publication of this notice.
In the event a request for a
public hearing is made by
the specified date and FAA
approves, a Notice of Public
Hearing will be published in
this same newspaper.

Before including your
address, phone number,
e-mail address, or other
personal identifying infor-
mation in your comment,
be advised that your entire
comment - including your
personal identifying infor-
mation - may be made
publicly available at any
time. While you can ask us
in your comment to with-
hold from public review your
personal identifying infor-
mation, we cannot guarantee
that we will be able to do so.

Anyone needing project
information or special
accommodations under the
Americans with Disabilities
Act (ADA) is encouraged
to contact Caitlin Hetzel,
at (501) 823-0730, mail at
Garver, Attn: Caitlin Hetzel,
4701 Northshore Drive,
North Little Rock, AR 72118,
or email at PublicInvolvement@GarverUSA.com.
Hearing or speech impaired,
please contact the Arkansas
Relay System at (Voice/TTY
711). Requests should be
made at least four days prior
to the end of the comment
period. Free language assis-
tance for Limited English
Proficient individuals is
available upon request.

October 20 2023
LFTS0028278




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[Arkansas Unified DBE Certification Application](#)

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Intro

As the "Airport of Choice", the Fort Smith Regional Airport will be self-sustaining, exceed the expect

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Fort Smith Regional Airport - FSM

October 19 at 4:09 PM · 🌐

The draft Environmental Assessment (EA) for the Fort Smith Regional Airport Solar Array Project will be available for viewing at the airport administration office for 30 days beginning October 20th.

The draft EA can be viewed during office hours Monday-Friday, 8am-4:30pm.

2

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APPENDIX H

Preparer Resumes



Adam White, PE

Senior Project Manager

Adam White is a senior project manager on Garver's Aviation Team and serves as the team leader for the Northwest Arkansas Aviation Team and serves as Aviation's Operations Manager. He has 16 years of experience specializing in design, evaluation, and maintenance of airfield pavements. Adam's responsibilities include airport design, project management, construction management, airport master planning, coordination with commercial service and general aviation clients, coordination with the FAA, and writing specifications. His project experience includes construction of runways, taxiways, aprons, hangars, perimeter fencing, parking lots, access roads, ARFF stations, and terminals. Adam has participated in the development of four greenfield airports. He also specializes in pavement rehabilitation and has inspected over 10 million square feet of airport pavement.

Education:	Bachelor of Science in Civil Engineering
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Licenses:	Professional Engineer, AR, 15425
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Experience:	14 years (firm) 14 years (total)
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Project Experience:

Fort Smith Regional Airport Runway 25 Extension (*Fort Smith, AR*)

Senior project manager responsible for coordinating all project processes associated with the planned runway extension, including civil design, electrical and NAVAID design, development and approval of an Environmental Assessment, and acquisition of aerial data surveys and approach changes.

Northwest Arkansas National Airport Concourse B Construction (*Bentonville, AR*)

Subconsultant design manager responsible for managing design of mechanical, electrical, and fire protection building systems in support of a new seven-gate concourse expansion. Also responsible for the site civil design associated with the concourse development. Coordinated with the prime architect to make sure the building systems and site civil design correlated with the architectural design.

Northwest Arkansas National Airport Terminal Renovation and Improvement (*Bentonville, AR*)

Project manager responsible for site civil design, including roadway relocation, signage, pavement markings, grading, and drainage designs. Also responsible for site utilities, including water service, sewer services, and electrical. Managed all scope of work completing by the Garver Team, including building electrical, mechanical, fire protection, and telecommunications design.

Bill and Hillary Clinton National Airport Terminal Ramp Expansion and Rehabilitation (*Little Rock, AR*)

Design Center manager responsible for managing civil and electrical design teams for expansion of the terminal apron. Responsible for managing civil airfield design, drainage design, utility design, and electrical design.

Grand Junction Regional Airport West Terminal Apron Reconstruction (*Grand Junction, CO*)

Performed quality control reviews and developed construction safety and phasing plans for the West Terminal Apron reconstruction. In this role, Adam was responsible for refining the phasing plans and designing temporary bridge layouts to ensure that the phasing plans were accurately developed within the extent of the bridge's movement.

Other Experience:

- Northwest Arkansas National Airport Landside Pavement Management Plan
- Bentonville Municipal Airport Game Composites Maintenance Facility
- Bentonville Municipal Airport Corporate Hangar Construction
- Fayetteville Drake Field HVAC Replacement



Chris Maestri, PE

Project Manager

Chris Maestri is a project manager on Garver's Northwest Arkansas Aviation Team with seven years of experience in design, construction, and project management. His responsibilities include airport design, project management, construction management, client coordination, FAA and state agency coordination, and construction document production. He has worked with several airports throughout the state of Arkansas. His project experience includes construction of runways, taxiways, aprons, hangars, parking lots, and access roads.

Education:	Bachelor of Science in Civil Engineering
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Licenses:	Professional Engineer, AR, 20075
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Experience:	3 years (firm) 6 years (total)
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Project Experience:

Bentonville Municipal Airport Hangar Development (*Bentonville, AR*)

Civil engineer responsible for the design of a new taxiway for future hangar development access. Responsibilities included stormwater drainage modeling, pavement design, Civil 3D modeling, utility layout, and construction plan production. Also attended airport meetings, bid opening, and coordinated with the FAA for airspacing studies.

Northwest Arkansas National Airport Concourse A North Apron Expansion (*Bentonville, AR*)

Civil engineer responsible for the design of an expansion to the terminal apron at XNA. This role included coordinating the apron expansion work with an adjacent gate adjustments project. We worked closely with AERO Systems Engineering to develop both plan sets and make sure projects could take place concurrently. Responsibilities included construction plans and specification review, bid opening, grant funding, and Owner and subconsultant coordination. Also responsible for construction management of the project including Owner / Contractor coordination, quantity and pay estimate review, and project closeout.

Northwest Arkansas National Airport Terminal Renovation and Improvement (*Bentonville, AR*)

Civil engineer responsible for the site civil design of the airport's Sky Bridge/Circulation Building terminal renovation. Responsibilities included roadway layout design, construction phasing coordination, Civil 3D modeling, and construction plan and specification production. Attended numerous meetings with architect and/or owner for project coordination, and helped coordinate with other Garver design groups (Mechanical/Plumbing, Electrical, Fire Protection) throughout the project duration.

Rogers Executive Airport Corporate Hangar Construction (*Rogers, AR*)

Civil engineer for the construction of a new 40,000 square foot hangar at Rogers Executive Airport. Responsibilities included site plan review and coordination, scheduling, progress meetings, drainage and utility coordination, quality control review, and communication with stakeholders.

Other Experience:

- Northwest Arkansas National Airport Air Traffic Control Tower Construction
- Northwest Arkansas National Airport Arrivals Lobby Renovation
- Northwest Arkansas National Airport Concourse A Seating Upgrades
- Northwest Arkansas National Airport Terminal Apron Expansion
- Northwest Arkansas National Airport Concourse B Construction



Ryan Mountain, PWS

Senior Environmental Scientist/Specialist

Ryan Mountain is an environmental special studies manager and senior environmental scientist with 22 years of environmental and project management experience.

Primary responsibilities include managing special environmental studies provided to Garver's aviation, transportation, industrial, federal, development, construction, and water business lines. This includes authoring and co-authoring NEPA documents, agency coordination, threatened and endangered species survey coordination, Phase I environmental site assessments, Section 404 permitting, wetland delineations, detailed wetland and stream mitigation planning and specifications,

biological evaluations and habitat assessments, and preparing spill prevention and stormwater pollution prevention plans. He has previous experience in fish rearing, distribution, spawning, identification, and aging. Ryan is a Professional Wetland Scientist (PWS) and has completed USACE wetland delineation training and the FHWA Section 4(f) overview course. He has also completed TNM 2.5 Noise Modeling and Noise Fundamentals courses AEDT airport noise training, TDEC qualified hydrologic professional training, and wildlife hazard management training required by the FAA for conducting wildlife hazard assessments. Additionally, he has received NEPA documents training and air/industrial stormwater permitting training.

Education: Bachelor of Science,
Fisheries and Wildlife
Management

Licenses: Professional Wetland
Scientist, 2745

Experience: 16 years (firm)
22 years (total)

Project Experience:

Fort Smith Regional Airport Runway 25 Extension Environmental Assessment (*Fort Smith, AR*)

Senior environmental scientist and lead author of an environmental assessment (EA) for a major runway extension project. Responsibilities included environmental project management, quality assurance reviews, document preparation, coordination with the airport, client, local, state, and federal agencies, and consultant coordination for cultural resources and noise/air quality emissions. The project included a wetland delineation and Section 404 Individual permitting with mitigation planning and USACE field verification, and conducting a public meeting.

Muhlenberg County Airport Environmental Assessment (*Muhlenberg, KY*)

Senior environmental scientist and co-author of a short-form environmental assessment (EA) for a corporate hangar and fixed wing flight school facility project. Responsibilities included coordination with the airport director; local, state and federal agencies. Additionally, served as the primary field biologist for completion of a wetland delineation required by the FAA. The project includes alternatives analysis and completion of an EA with FAA as the lead federal agency.

Northwest Arkansas National Airport Terminal Area Plan Categorical Exclusion (*Bentonville, AR*)

Senior environmental scientist responsible for completion of a CATEX involving FAA approval of Concourse B expansion and skybridge construction. Concourse B is proposed to be expanded to eight gates and include partial demolition of Concourse C. The skybridge will connect the recently developed parking garage to the main terminal building and spans Airport Drive.

Nashville International Airport Concourse and Gate Expansion Environmental Assessment (*Nashville, TN*)

Environmental project manager and primary author of an Environmental Assessment (EA) involving major infrastructure improvements at BNA as part of Vision 2.0. Significant project elements include a new 16-gate concourse, 8-gate satellite concourse, north apron expansion, stream encapsulation, AOA fence relocation and main terminal interior improvements related to the ticket lobby expansion, baggage handling, and concession upgrades. Ryan coordinated the completion of all special environmental studies with subconsultants, lead agency coordination and coordinated with the FAA throughout EA development. Specific studies included socioeconomic analysis, noise, air quality, wetlands, streams, and biological surveys. Additionally, Ryan is coordinating the completion of Section 404 and Aquatic Resources Alteration Permit (ARAP) permitting and mitigation banking coordination for over 1,600 linear feet of stream impacts.



Colby Marshall

Environmental Specialist

Colby Marshall is an environmental specialist at Garver with 13 years of experience. Colby is responsible for performing wetland delineations, jurisdictional water evaluations, industrial and construction stormwater permitting, habitat assessments, and wildlife surveys. He has provided environmental services on more than 150 projects for aviation, transportation, and municipal clients. Colby has completed the USACE Stream Investigation, Stabilization, and Design Workshop, Tennessee's Hydrologic Determination Training Course, and has an EPA Watershed Management Training Certificate. His experience includes Trimble GPS and ArcGIS.

Education: Bachelor of Science, Biology

Experience: 4 years (firm)
13 years (total)

Project Experience:

Fort Smith Regional Airport Runway 25 Extension Environmental Assessment (*Fort Smith, AR*)

Environmental scientist responsible for delineating wetlands along proposed airport improvements. Responsibilities included assessing federally threatened and endangered species habitat, drafting a wetland report and Section 404 permit package, and acquiring required compensatory mitigation credits.

Garnett Municipal Airport Environmental Assessment Update (*Garnett, KS*)

Environmental scientist responsible for delineating wetlands along proposed airport improvements. Responsibilities included assessing federally threatened and endangered species habitat and drafting a wetland report and Section 404 permit package.

Nashville International Airport Concourse and Gate Expansion Environmental Assessment (*Nashville, TN*)

Environmental scientist responsible for assisting in the development of an Environmental Assessment (EA) involving major infrastructure improvements at BNA as part of Vision 2.0. Significant project elements include a new 16-gate concourse, 8-gate satellite concourse, north apron expansion, stream encapsulation, AOA fence relocation and main terminal interior improvements related to the ticket lobby expansion, baggage handling, and concession upgrades.

Northwest Arkansas National Airport Access Road NEPA Documentation (*Bentonville, AR*)

Environmental scientist responsible for delineating wetlands along a proposed roadway extension alignment. Responsibilities included assessing federally threatened and endangered species habitat, as well as drafting a wetland memo and assisting in drafting an environmental assessment.

Springdale Municipal Airport East Parallel Taxiway Extension (*Springdale, AR*)

Environmental scientist responsible for delineating wetlands along proposed airport improvements and acquiring a construction stormwater permit. Responsibilities included assessing federally threatened and endangered species habitat, drafting a wetland report and Section 404 permit package, and drafting a Stormwater Pollution Prevention Plan.

Music City Executive Airport Midfield Apron Expansion (*Gallatin, TN*)

Environmental scientist responsible for drafting a wetland report and hydrologic determination and acquiring a Section 404 permit.

Centre-Piedmont-Cherokee County Regional Airport Parallel Taxiway (*Centre, AL*)

Environmental scientist responsible for delineating wetlands along a proposed taxiway project. Responsibilities included assessing federally threatened and endangered species habitat, as well as drafting a wetland report and preliminary jurisdictional determination application.