

WATERS DELINEATION REPORT

MILLCREEK BESS PROJECT
SILEX, LINCOLN COUNTY, MISSOURI

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1.0 INTRODUCTION

Civil & Environmental Consultants, Inc. (CEC) conducted a waters delineation for Ameren Missouri's (Ameren's) Millcreek battery energy storage system (BESS) project located in Silex, Lincoln County, Missouri (39.1664, -90.9812; Figure 1). This report includes the findings of a desktop data review and field delineation of current site conditions. The purpose was to identify, characterize, and delineate wetlands, streams, and other waters located within the approximate 328-acre area of interest (AOI). This report presents the methodology and findings.

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the United States (WOTUS) under Section 404 of the federal Clean Water Act (CWA), and the placement of structures in or over navigable waters under Sections 9 and 10 of the Rivers and Harbors Act of 1899. Navigable waters are those waters subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible to use in interstate or foreign commerce, as defined in 33 Code of Federal Regulations (CFR) 329.4. Federally jurisdictional WOTUS are defined in 33 CFR Part 328 as traditional navigable waters, their relatively permanent tributaries, adjacent (abutting or indistinguishable) wetlands with a continuous surface connection to jurisdictional waters, and certain other waterbodies (lakes, ponds, impoundments, and captured streams) if not isolated or otherwise categorically excluded. Wetlands, streams, and other waters that meet the guidelines contained in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), referred to hereafter as Corps Manual, applicable Regional Supplement to the Corps Manual, and/or exhibit ordinary high-water marks (OHWM) might be subject to regulation by USACE as WOTUS as defined by 33 CFR 328.3(a).

This report is intended to document potentially jurisdictional waters using regulatory guidelines. The status and extent of waters is subject to jurisdictional determination by the USACE and state agencies. Under the current federal operative WOTUS rules (2023 Conforming Rule amended for *Sackett v. Environmental Protection Agency* (USEPA) 598 U.S. 651 and *Rapanos v. U.S.* 547 U.S. 715 and the Pre-2015 Regulatory Regime) and the March 24, 2025 joint USACE/USEPA memo *WOTUS Notice: The Final Response to SCOTUS*, ephemeral streams may not be considered WOTUS since they may not be Relatively Permanent Waterbodies (RPWs). The relatively permanent standard is flowing or standing water year-round or continuously during certain times of year. "Certain times of the year" is intended to include extended periods (typically at least 3 months) of standing or continuously flowing water occurring in the same geographic feature year after year, except in times of drought. RPWs do not include tributaries with flowing or standing water for only a short duration in direct response to precipitation. No minimum flow duration for RPWs has been established because flow duration qualifying as "continuously during certain times

of year” varies extensively by regional climate. The flow regimes ascribed to the delineated streams is a preliminary opinion based on channel conditions at the time of the field delineation and may require supplemental data for jurisdictional determination purposes. Similarly, isolated streams or wetlands that lack a continuous surface connection to RPWs and Traditional Navigable Waters (TNWs) may also not qualify as WOTUS, but downstream connectivity of the delineated waters may require further investigation to sufficiently determine jurisdictional status according to the continuous surface connection test.

2.0 METHODOLOGY

2.1 ENVIRONMENTAL DATA REVIEW

Prior to the field delineation, the following data sources were consulted to aid in the identification of potential wetlands, streams, and other waters within the AOI:

- U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps;
- U.S. Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS) Soil Survey Geographic (SSURGO) Database;
- Federal Emergency Management Agency (FEMA) flood hazard data;
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI);
- USGS 3D Hydrography Program (3DHP);
- Aerial imagery from various sources; and
- Antecedent Precipitation Tool (APT)

These publicly available data sources aided in overall habitat characterizations and facilitated potential water resource identification within the AOI; topographic depressions, mapped hydric soils, mapped NWI and 3DHP features, and FEMA floodplains have higher potential to contain wetlands, streams, and other surface water features.

2.2 FIELD METHODS

CEC performed a waters delineation to identify and delineate wetlands, streams, and other waters within the AOI. The following sections outline the field methods used to delineate these waters.

2.2.1 Wetland Delineation

CEC ecologists identified, characterized, and delineated wetlands in accordance with the routine, on-site determination methodology described in the Corps Manual, supplemented by the following technical guidance documents:

- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE 2010); (referred to hereafter as Regional Supplement);
- *National Wetland Plant List* (USACE 2022); and

- *Field Indicators of Hydric Soils in the United States Version 9.2 (USDA-NRCS 2025).*

CEC ecologists walked the AOI and collected data at representative locations within each plant community cover type and areas with potential water features characteristics (e.g. localized depressions, converging slopes, evident hydrology, etc.). Data collected at each sampling point were recorded on USACE Wetland Determination Data Sheets. The sampling plan was modified as necessary if additional plant community cover types or potential water features characteristics were encountered.

At each sampling point, the following parameters were assessed: vegetation, soils, and hydrology. First, visual estimates of percent absolute cover of plant species were recorded for each of the following strata, when present: tree, sapling/shrub, herb, and woody vine. A determination of whether the plant community was dominated by hydrophytic (wetland) plants was then made using the Rapid Test or Dominance Test indicators. Next, soils were sampled to determine if soils met hydric soil indicators. Lastly, wetland hydrology indicators (e.g., surface water, high water table, saturation, etc.) were recorded, if present. If a parameter was determined to be significantly disturbed or naturally problematic, procedures described in the Corps Manual and Regional Supplement for atypical and problematic situations were applied.

The sampling point data were used to determine whether respective points were located in a wetland or non-wetland (i.e. upland). If a wetland was identified, further sampling was performed to delineate the wetland/non-wetland boundary. Each wetland was also classified according to the NWI classification system developed by the Federal Geographic Data Committee (2013) and Cowardin et al. (1979).

- **Palustrine emergent wetland (PEM):** rooted herbaceous and grass like plants which stand erect above the water or ground surface characterize this wetland class (excluding mosses or lichens). Vegetation is present for most of the growing season in most years. Emergent wetlands include marshes, meadows, and fens.
- **Palustrine scrub-shrub wetland (PSS):** woody vegetation less than 20 feet tall dominate this wetland class. Plant species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. Scrub-shrub wetlands include shrub swamps and bogs.
- **Palustrine forested wetland (PFO):** woody vegetation 20 feet or taller dominate this wetland class. Forested wetlands generally include an overstory of trees, an understory of young trees and shrubs, and an herbaceous layer.

- **Palustrine unconsolidated bottom (PUB):** nontidal wetland lacking vegetation but is less than 8 hectare (20 acres) in size with a water depth in the deepest part of basin less than 2.5 meters (8.2 feet) at low water. Includes all wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones (less than 6-7 centimeter), and a vegetative cover less than 30 percent.

If more than one Cowardin classification type was identified within a wetland, the boundary between the types was delineated. Wetland boundaries were recorded using a mapping-grade handheld Global Navigational Satellite System (GNSS) receiver capable of sub-meter accuracy.

Upland habitats were also recorded on USACE Wetland Determination Data Sheets. Upland sampling points were documented adjacent to wetland delineation boundaries, as well as at representative upland habitats throughout the AOI.

2.2.2 Stream and Other Waters Delineation

Concurrent with the wetland delineation, CEC ecologists walked the AOI to identify streams and other waters. These waters were evaluated for the presence of an OHWM in accordance with USACE Regulatory Guidance Letter (RGL) No. 05-05: Ordinary High Water Mark Identification (USACE 2005), USACE *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (USACE 2025), and definitions under 33 CFR 328. As described in these OHWM guidance materials and 33 CFR 328.3(c)(4), an OHWM is established by a clear, natural line impressed upon 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. Potential jurisdiction limits are delineated using OHWM indicators as weight of evidence including geomorphic indicators (e.g. breaks in slope and channel morphology), transition of vegetation types, changes in sediment type, and other indicators demarcating the regular high flow surface water elevation (e.g. observed flow event, wrack, leaf litter disturbed or washed away, or water staining). The uppermost limit of an ephemeral stream was established where the stream loses its defined bed and bank or OHWM.

For streams, physical and biological data were used to infer the stream's hydrologic flow regime, using a weight-of-evidence approach. CEC used field indicators such as flow, substrate composition, presence of defined bed and bank, origin of hydrologic sources, presence/absence of vegetation within the stream channel, and presence/absence of benthic macroinvertebrates, fish, and other aquatic biota to classify onsite stream segments into one of three stream types:

- **Ephemeral:** surface water flows or pools only in direct response to precipitation (e.g., rain or snow fall);
- **Intermittent:** surface water flows continuously during certain times of the year and more than in direct response to precipitation (e.g., seasonally when the groundwater table is elevated or when snowpack melts); and
- **Perennial:** surface water flows continuously year-round during normal rainfall. Ground water provides the primary hydrology.

Stream boundaries were located using a mapping-grade GNSS receiver capable of sub-meter accuracy. The physical characteristics of the streams and field observations were summarized on field data forms.

3.0 RESULTS

3.1 ENVIRONMENTAL DATA REVIEW

The USGS 7.5-minute topographic quadrangle and 3DHP data identified three (3) lakes, eight (8) unnamed streams, and one (1) named stream (Mill Creek) within the AOI (Figures 1 and 2). The NWI data also identified three (3) freshwater ponds and six (6) riverine features within the AOI (Figure 2). The NWI classifies these resources as palustrine, unconsolidated bottom, semipermanently flooded, diked/impounded (PUBFh), palustrine, unconsolidated bottom, intermittently exposed, diked/impounded (PUBGh), riverine, intermittent, streambed, seasonally flooded (R4SBC), and riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH). The FEMA flood hazard data identified a 100-year floodplain associated with Mill Creek located along the southwest boundary of the AOI. The SSURGO data identified four (4) hydric soil map units and six (6) non-hydric soil map units within the AOI (Appendix A and Figure 2).

3.2 FIELD RESULTS

CEC staff conducted a field delineation on December 8, 15, 16, 17, and 22, 2025, to identify, delineate, and classify wetlands, streams, and other waters within the AOI. The AOI consisted of agricultural fields, forested slopes, open water features (ponds/lakes) and open fields. In total, two (2) wetlands, fourteen (14) streams, and two (2) open waters were identified within the AOI (Figure 3 and Figure 4). A photographic summary is included in Appendix B. Wetland Determination Data Sheets are provided in Appendices C.

CEC ran the Antecedent Precipitation Tool (APT) to assess the climatic conditions at the time of the field delineation. The APT compares antecedent or recent rainfall conditions for this location versus the range of normal rainfall conditions that occurred during the preceding 30 years. The APT tool evaluates normal precipitation conditions, assesses the presence of drought conditions, and the approximate dates of wet and dry seasons for a given location. The APT analysis indicated wetter than normal conditions were present at the time of the field delineation. However, the Palmer Drought Severity Index (PDSI) indicated mild drought at the time of the field delineation. The results of the APT analysis are included in Appendix D.

3.2.1 Wetland Delineation

Two (2) PEM wetlands were identified within the AOI. These wetlands were isolated and resulted from old stock ponds. In addition to two (2) sampling points taken within wetlands, five (5) sampling points were taken to document upland habitats within the AOI. Refer to Table 1 for a summary of the wetlands identified within the AOI.

CEC's opinion of jurisdictional status is summarized in Table 1 below.

Table 1 Wetlands Delineated

Wetland ID	Acreage by Cowardin Classification ¹			Total Acreage ¹	Sampling Point(s)	CEC's Opinion of Jurisdictional Status ^{2,3}
	PEM	PSS	PFO			
Wetland 17	0.10	-	-	0.10	SP-31	Non-WOTUS/ Not Jurisdictional
Wetland 18	0.18	-	-	0.18	SP-29	Non-WOTUS/ Not Jurisdictional
Total	0.28	-		0.28		

¹ Acreage includes wetland area within area of interest only

² Based on CEC's interpretation of the Sackett v. U.S. Environmental Protection Agency (No. 21-454) court decision issued May 2023 and the "Revised Definition of 'Waters of the United States'; Conforming" published in the Federal Register and became effective on September 8, 2023, or the Pre-2015 Regulatory Regime as applicable.

³ Waters of the United States (WOTUS)

3.2.2 Stream and Other Waters Delineation

Of the fourteen (14) streams that were identified, eleven (11) included ephemeral stream reaches, and six (6) included intermittent stream reaches (note that several streams consisted of more than one flow regime). The streams identified include Mill Creek, and its unnamed tributaries. These streams are located within the Cuivre River and Mississippi River basins. Refer to Table 2 for a summary of the streams identified within the AOI.

In instances where an ephemeral stream a) transitions to an intermittent or perennial stream within the same hierarchal stream order, and b) where the intermittent or perennial stream is the predominant stream type within that order, the relatively permanent standard is applied universally to all stream segments within that order. Therefore, according to standard USACE practice, if the majority of a stream order is composed of intermittent and/or perennial segments, then the ephemeral portion of that order is also considered an RPW.

The streams within the AOI have narrow, or predominantly narrow, riparian corridors. They are surrounded by active agricultural fields and cattle pasture. This historical and current activity has impacted the hydrology of the watershed.

Ephemeral streams within the AOI shared similar characteristics including somewhat vegetated channels, leaf litter, silt-sand-clay substrates, and no water present or flowing at the time of the delineation. There is one (1) ephemeral reaches that transition into an intermittent reach that would be classified as RPW. The remaining twelve (12) ephemeral reaches would be classified as non-RPWs.

CEC's opinion of jurisdictional status is summarized in Table 2 below.

Table 2 Streams Delineated

Stream ID	Stream Order	Length (LF) by Stream Classification ^{1,3}			Total Length (LF) ²	Average Ordinary High Water Mark (OHWM) Width (LF) ⁴	CEC's Opinion of Jurisdictional Status ^{4,5}
		EPH	INT	PER			
Stream 19D	2nd/3rd	-	3,954	-	3,954	6	WOTUS/ Jurisdictional Predominant flow regime of 2nd order reach is INT, transitioning to 3rd order PER, and continuing outside of the AOI. Therefore, entire 2nd and 3rd order reaches are considered jurisdictional RPWs.
Stream 25B	1st	-	2,166	-	2,166	5	WOTUS/ Jurisdictional
Stream 26A (above Stream 27 confluence)	1st	1,899	-	-	1,899	3	Non-WOTUS/ Not Jurisdictional
Stream 26A (below Stream 27 confluence)	2nd	492	-	-	492		
Stream 26B (back channel)	2nd	40	--	-	40	3	
Stream 26C	2nd	-	300		300	3	
Stream 27	1st	118	-	-	118	2.5	Non-WOTUS/ Not Jurisdictional
Stream 28	1st	1,656	-	-	1,656	2.5	Non-WOTUS/ Not Jurisdictional
Stream 29	1st	366	-	-	366	0.5	Non-WOTUS/ Not Jurisdictional
Stream 30A/Mill Creek	1st	295	-	-	295	3	WOTUS/ Jurisdictional
Stream 30B/Mill Creek (above Stream 37 confluence)	1st	-	2,892	-	2,892	10	Predominant flow regime of 1st order reach is INT. Therefore, entire 1st order reach is considered a jurisdictional RPW.

Stream ID	Stream Order	Length (LF) by Stream Classification ¹ _{2 3}			Total Length (LF) ²	Average Ordinary High Water Mark (OHWM) Width (LF) ²	CEC's Opinion of Jurisdictional Status ^{4,5}
		EPH	INT	PER			
Stream 30B/Mill Creek (below Stream 37 confluence)	2nd	-	569	-	569	10	WOTUS/Jurisdictional Predominant flow regime of 2nd order reach is INT. Therefore, entire 2nd order reach is considered a jurisdictional RPW.
Stream 30C/Mill Creek	2nd	-	106	-	106	10	
Stream 30D/Mill Creek	2nd	-	131	-	131	10	
Stream 30E/Mill Creek	2nd	-	456	-	456	10	
Stream 30F/Mill Creek	3rd	-	587	-	587	8	
Stream 31A	1st	143	-	-	143	2	Non-WOTUS/ Not Jurisdictional
Stream 31B	2nd	-	68	-	68	4	WOTUS/Jurisdictional
Stream 31C	2nd	-	20	-	20	4	
Stream 31D	2nd	-	17	-	17	4	
Stream 31E	2nd	-	26	-	26	4	
Stream 31F	2nd	-	1,043	-	1,043	4	
Stream 32	1st	227	-	-	227	1	Non-WOTUS/ Not Jurisdictional
Stream 33	1st	383	-	-	383	3	Non-WOTUS/ Not Jurisdictional
Stream 34A (back channel)	1st	-	984	-	984	4	WOTUS/Jurisdictional
Stream 34B	1st	-	172	-	172	6	
Stream 35	1st	132	-	-	132	2	Non-WOTUS/ Not Jurisdictional
Stream 36	1st	332	-	-	332	1	Non-WOTUS/ Not Jurisdictional
Stream 37	1st	176	-	-	176	2	Non-WOTUS/ Not Jurisdictional

Stream ID	Stream Order	Length (LF) by Stream Classification ^{1, 3}			Total Length (LF) ²	Average Ordinary High Water Mark (OHWM) Width (LF) ²	CEC's Opinion of Jurisdictional Status ^{4,5}
		EPH	INT	PER			
Total		6,259	13,491	0	19,750		

¹ Linear feet (LF), ephemeral (EPH), intermittent (INT), and perennial (PER)

² Includes the portion of the stream within AOI only.

³ Stream classification based on channel condition and observations at time of field delineation.

⁴ Based on CEC's interpretation of the Sackett v. U.S. Environmental Protection Agency (No. 21-454) court decision issued May 2023 and the "Revised Definition of 'Waters of the United States'; Conforming" published in the Federal Register and became effective on September 8, 2023, or the Pre-2015 Regulatory Regime as applicable.

⁵ Waters of the United States (WOTUS)

Two (2) open waters were identified within the AOI. The open waters appear to have been constructed as stock ponds by area landowners. The open waters are not impoundments of WOTUS, do not have a continuous surface connection with WOTUS, and are not indistinguishable from WOTUS. Therefore, it is CEC's professional opinion that the open waters identified within the AOI would not likely be subject to USACE jurisdiction. Refer to Table 3 for a summary of the open waters identified and delineated within the AOI.

Table 3 Open Waters Delineated

Open Water ID	Acreage by Cowardin Classification ¹	CEC's Opinion of Jurisdictional Status ^{2,3}
	PUB	
Open Water 17	0.16	Non-WOTUS/Not Jurisdictional
Open Water 18	0.58	Non-WOTUS/Not Jurisdictional
Total	0.74	

¹ Acreage includes feature area within survey area only

² Based on CEC's interpretation of the Sackett v. U.S. Environmental Protection Agency (No. 21-454) court decision issued May 2023 and the "Revised Definition of 'Waters of the United States'; Conforming" published in the Federal Register and became effective on September 8, 2023, or the Pre-2015 Regulatory Regime as applicable.

³ Waters of the United States (WOTUS)

Sixteen (16) erosional features were also observed during the field delineation. These features did not have defined bed and banks, OHWMs, or other salient characteristics of streams; and did not appear to have groundwater input. These features appear to only convey flow in direct response to precipitation events. Therefore, in CEC's professional opinion, these features would not be subject to USACE jurisdiction.

4.0 CONCLUSIONS

CEC conducted a waters delineation within the AOI on December 8, 15, 16, 17, and 22, 2025. CEC identified the following within the AOI:

- Two (2) wetlands, totaling approximately 0.28 acres.
- Fourteen (14) streams (29 stream reaches), totaling approximately 19,750 LF; and
- Two (2) open waters, totaling approximately 0.74 acres.

It is CEC's opinion that the following features are jurisdictional:

- Stream 19D
- Stream 25B
- Stream 30A-30F
- Stream 31B-31F
- Stream 34A-34B

These features would likely be considered WOTUS and impacts to these features would be subject to USACE jurisdiction and CWA Section 404 permitting requirements.

It is CEC's opinion that the following features are not jurisdictional:

- Wetland 17
- Wetland 18
- Open Water 17
- Open Water 18
- Stream 26A-26C
- Stream 27
- Stream 28
- Stream 29
- Stream 31A
- Stream 32
- Stream 33
- Stream 35
- Stream 36
- Stream 37

These features would likely be considered non-WOTUS and not subject to USACE jurisdiction. However, only the USACE has the authority to determine jurisdictional status of the identified features.

Ditches, erosional gullies, and/or vegetated swales were observed that did not exhibit defined bed and banks, OHWMs, or other salient characteristics of jurisdictional waters. These features appear to be non-jurisdictional features that meet the federal WOTUS exclusions listed under 33 CFR Part 328 (b) as either ditches excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water; and/or swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

5.0 REGULATORY CONSIDERATIONS

The USACE has authority to permit the discharge of dredged or fill material into WOTUS under Section 404 of the federal Clean Water Act, and to permit work and the placement of structures in navigable waters under Sections 9 and 10 of the Rivers and Harbors Act of 1899. Wetlands, streams, and other waters that meet the guidelines contained in the Corps Manual, Regional Supplement, and Regulatory Guidance Letter No. 05-05 are subject to regulation by USACE as WOTUS as defined by 33 CFR 328.3(a), and the currently in effect regulatory definition (SCOTUS 2023).

As a result of ongoing litigation with the January 2023 Revised Definition of 'Waters of the United States' Rule (2023 WOTUS Rule), federal agencies will implement the 2023 WOTUS Rule, as amended by the conforming rule, in 24 states, the District of Columbia, and the U.S. Territories. In the other 26 states (including Missouri) and for certain parties, the agencies are interpreting "WOTUS" consistent with the pre-2015 regulatory regime and the Supreme Court's decision in *Sackett v. Environmental Protection Agency* (May 24, 2023) until further notice.

If CWA Section 404 authorization and/or other federal permits are required for the proposed project, consultation with the USFWS will likely be required pursuant to Section 7 of the Endangered Species Act. Furthermore, consultation with the State Historic Preservation Office may also be required relative to potential effects to resources listed on or eligible for listing on the National Register of Historic Places.

Waters within the AOI were delineated using guidelines set forth by the USACE, which have final regulatory authority on the jurisdiction and extents of wetlands, streams, and other waters.

It is the responsibility of any party that intends to discharge dredge or fill material into WOTUS and/or isolated waters to comply with all applicable regulations.

6.0 LEVEL OF CARE

This waters delineation has been prepared based on the information referenced within this report, interpreted in the light of the investigator's training, experience, and professional judgement in conformance with USACE and other applicable agency guidelines, and with the level of care and skill ordinarily exercised by members of the environmental consulting profession practicing contemporaneously under similar conditions in the locality of the site. The waters boundaries described in this report may change subsequent to CEC's delineation based on changes in the regulatory criteria, seasonal variations in hydrology, alterations to drainage patterns, and other human activities and/or land disturbances.

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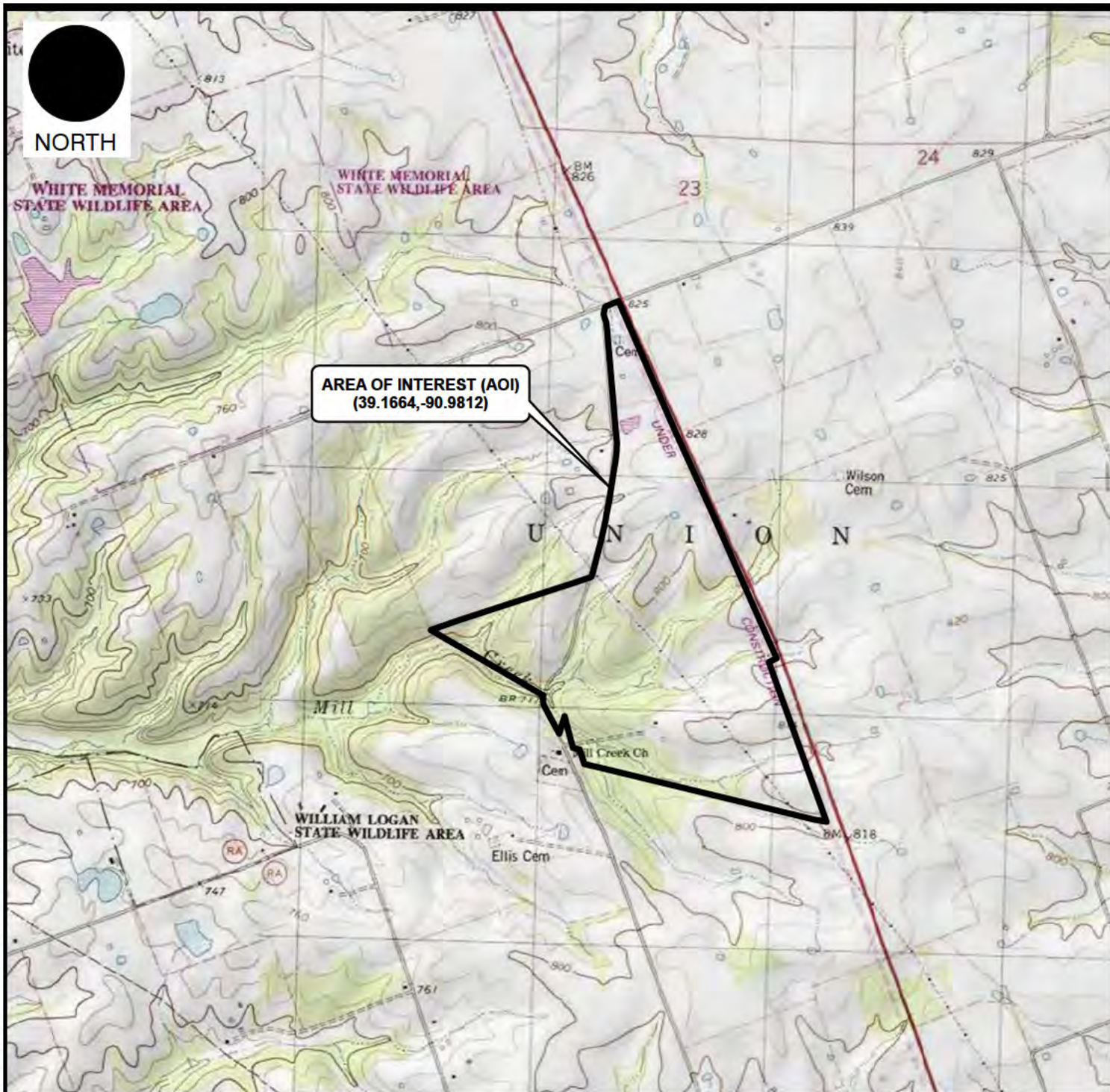
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FIGURES

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LEGEND

 AREA OF INTEREST (AOI)

SCALE IN FEET

0 2,000 4,000

1. USGS TOPOGRAPHIC MAP / ARCGIS MAP
SERVICE:
ACCESSED 6/23/2026.
AUBURN, MISSOURI QUADRANGLE
PUBLISHED 1985.



APPROXIMATE SITE LOCATION

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Ph: 314.656.4566 · 866.250.3679
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MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

SITE LOCATION MAP

DRAWN BY:

RRT

CHECKED BY:

LAV

APPROVED BY:

TJR

FIGURE NO:

Attachment B

DATE:

6/22/2026

SCALE:

1" = 2,000'

PROJECT NO:

354-818

*Hand Signature on file



LEGEND

AREA OF INTEREST (AOI)

3DHP FLOWLINE

— RIVER

--- WATERBODY CONNECTOR

3DHP WATERBODY

LAKE

NWI FEATURES

FRESHWATER FORESTED/SHRUB WETLAND

FRESHWATER POND

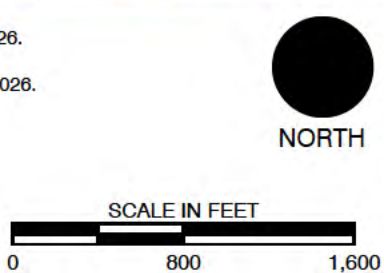
RIVERINE

SOIL MAP UNIT

FLOOD HAZARD AREAS

1% ANNUAL CHANCE FLOOD HAZARD

- REFERENCES**
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE. IMAGERY: 2024. ACCESSED 6/24/2026.
 2. USFWS NATIONAL WETLANDS INVENTORY (NWI) DATA BY STATE, ACCESSED 6/24/2026.
 3. USGS 3D HYDROGRAPHY PROGRAM (3DHP) ACCESSED: 6/24/2026.
 4. FEMA D-FIRM NATIONAL FLOOD HAZARD LAYER ACCESSED 6/24/2026.
 5. USDA, NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE, ACCESSED 6/24/2026.



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DATE:	6/24/2026	SCALE:	1" = 900'

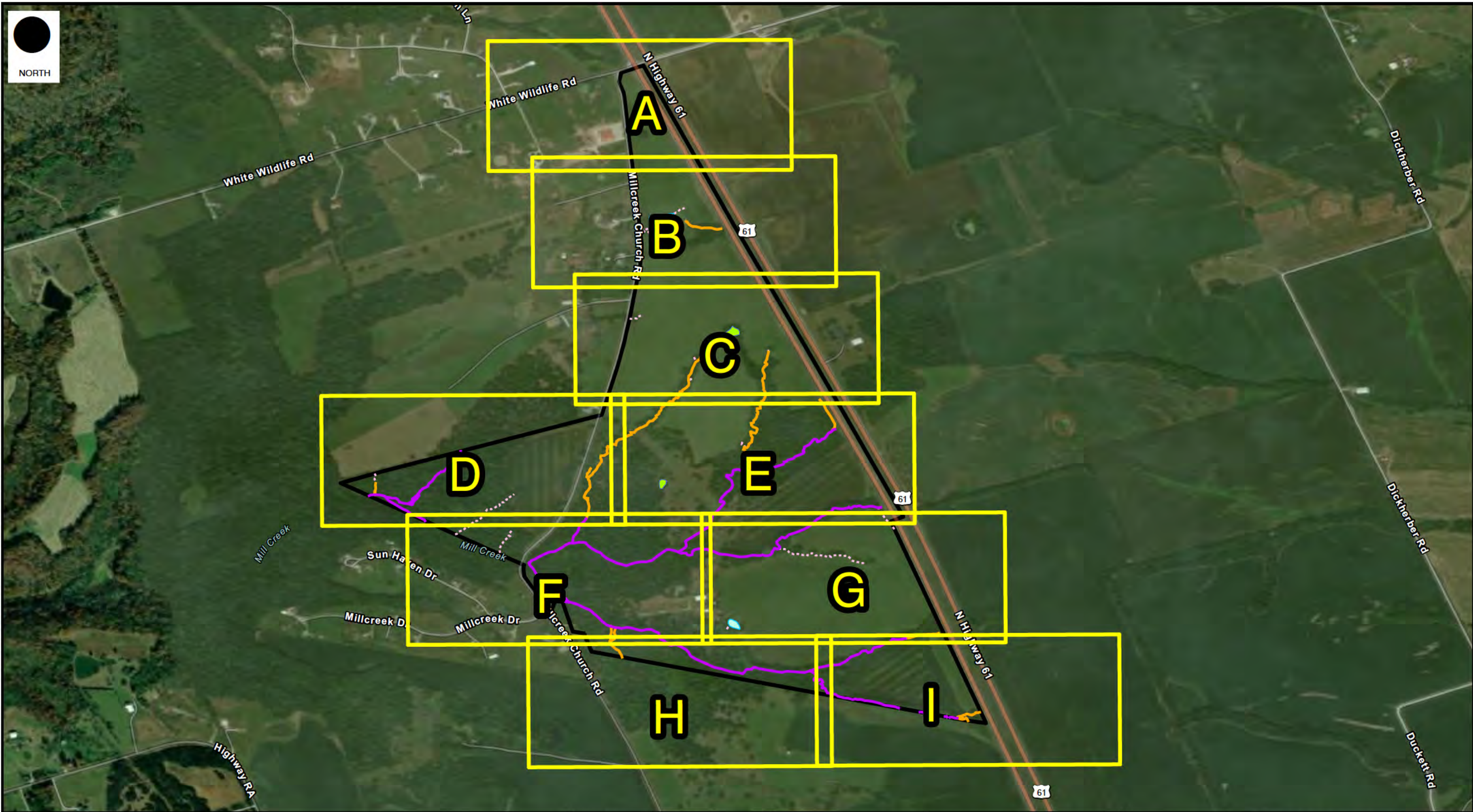
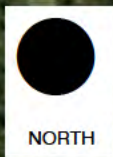
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AMEREN
LINCOLN COUNTY, MISSOURI

ENVIRONMENTAL DATA REVIEW MAP

APPROVED BY:	TJR	FIGURE NO:	Attachment B
PROJECT NO:	354-818		

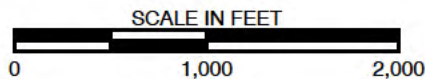
*Hand Signature on file

\\cecinc.com\global\Projects\350-000\354-818-GIS\Maps\EC02_AmerenMillcreekREC_Delineation.aprx [354818_EC04_FIG3_WATERS_DELINEATION_OVERVIEW_MAP] 7/2/2026 3:20 PM (vraab



LEGEND

- | | |
|------------------------|---------------------|
| AREA OF INTEREST (AOI) | UPLAND DRAINAGE |
| MAP INDEX | EPHEMERAL STREAM |
| WETLAND - PEM | INTERMITTENT STREAM |
| OPEN WATER | |



REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.

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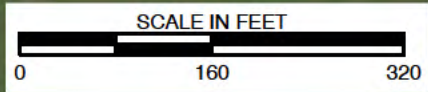
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION OVERVIEW MAP

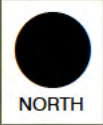
DRAWN BY:	TJG	CHECKED BY:	LAV	APPROVED BY:	TJR	FIGURE NO:	Attachment 3 B
DATE:	7/6/2026	SCALE:	1" = 1,000'	PROJECT NO:	354-818		

*Hand Signature on file

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



- LEGEND**
- AREA OF INTEREST (AOI)
 - PHOTO LOCATION
 - UPLAND DRAINAGE

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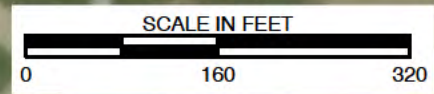
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

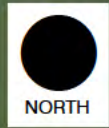
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DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002	Attachment 3A

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



LEGEND	
	AREA OF INTEREST (AOI)
	PHOTO LOCATION
	SAMPLING POINT
	EXISTING CULVERT
	OPEN WATER
	EPHEMERAL STREAM
	UPLAND DRAINAGE

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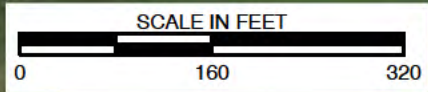
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

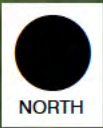
DRAWN BY:	TJG	CHECKED BY:	LAV	APPROVED BY:	TJR	FIGURE NO:
DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002	Attachment B

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



LEGEND	
	AREA OF INTEREST (AOI)
	PHOTO LOCATION
	SAMPLING POINT
	EXISTING CULVERT
	WETLAND - PEM
	EPHEMERAL STREAM
	UPLAND DRAINAGE

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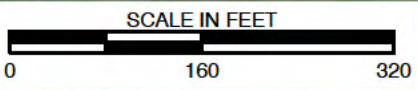
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

DRAWN BY:	TJG	CHECKED BY:	LAV	APPROVED BY:	TJR	FIGURE NO:
DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002	Attachment 36

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



LEGEND

	AREA OF INTEREST (AOI)		EPHEMERAL STREAM
	PHOTO LOCATION		INTERMITTENT STREAM
	SAMPLING POINT		UPLAND DRAINAGE

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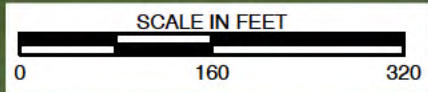
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DRAWN BY:	TJG	CHECKED BY:	LAV
DATE:	7/6/2026	SCALE:	1" = 160'

MILLCREEK BESS PROJECT AMEREN LINCOLN COUNTY, MISSOURI	
WATERS DELINEATION MAP	
APPROVED BY:	TJR
PROJECT NO:	354-818.0002
FIGURE NO:	Attachment 3B

*Hand Signature on file

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



LEGEND	
	AREA OF INTEREST (AOI)
	PHOTO LOCATION
	SAMPLING POINT
	EXISTING CULVERT
	WETLAND - PEM
	EPHEMERAL STREAM
	INTERMITTENT STREAM
	UPLAND DRAINAGE

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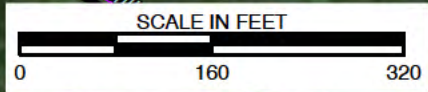
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

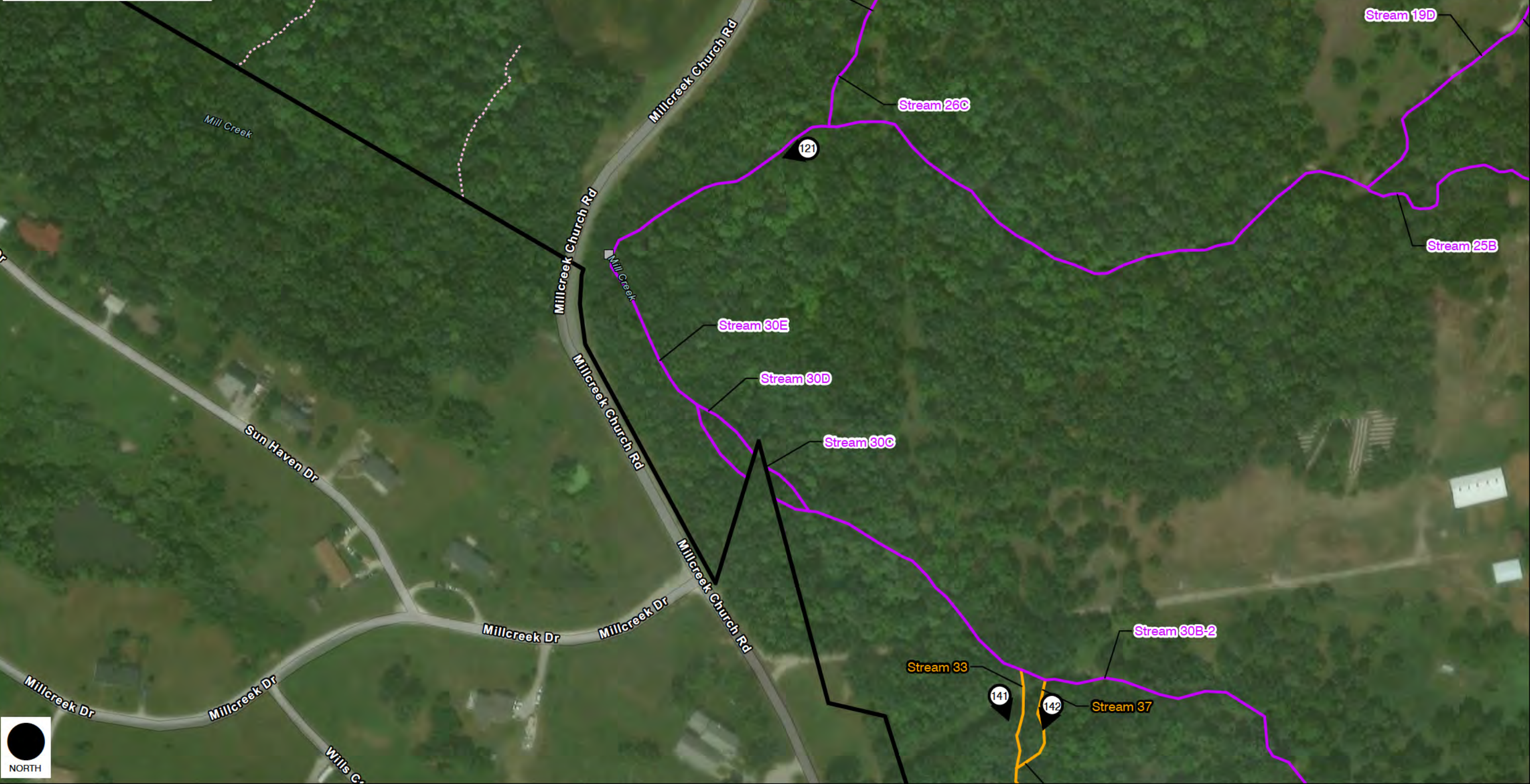
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DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002		

*Hand Signature on file

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



LEGEND	
	AREA OF INTEREST (AOI)
	PHOTO LOCATION
	EXISTING CULVERT
	EPHEMERAL STREAM
	INTERMITTENT STREAM
	UPLAND DRAINAGE

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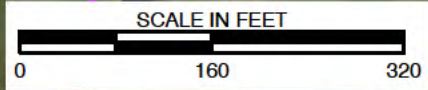
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DRAWN BY:	TJG	CHECKED BY:	LAV
DATE:	7/6/2026	SCALE:	1" = 160'

MILLCREEK BESS PROJECT AMEREN LINCOLN COUNTY, MISSOURI	
WATERS DELINEATION MAP	
APPROVED BY:	TJR
PROJECT NO:	354-818.0002
FIGURE NO:	Attachment 3E

*Hand Signature on file

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.

Stream 19D

Stream 25B

126

129

N Highway 61

N Highway 61

N Highway 61

N Highway 61

N Highway 61

N Highway 61

145

144

Open Water 17

Stream 30B-1

Stream 30A

147

N Highway 61

N Highway 61



LEGEND			
	AREA OF INTEREST (AOI)		EPHEMERAL STREAM
	PHOTO LOCATION		INTERMITTENT STREAM
	OPEN WATER		UPLAND DRAINAGE

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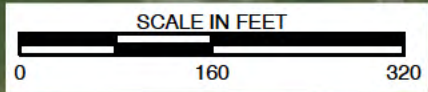
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

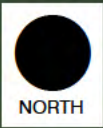
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DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002	Attachment	

*Hand Signature on file

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REFERENCES
1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.
IMAGERY DATE: 2024. ACCESSED 7/6/2026.



- LEGEND**
- | | | | |
|--|------------------------|--|---------------------|
| | AREA OF INTEREST (AOI) | | EPHEMERAL STREAM |
| | PHOTO LOCATION | | INTERMITTENT STREAM |
| | SAMPLING POINT | | UPLAND DRAINAGE |

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MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

DRAWN BY:	TJG	CHECKED BY:	LAV	APPROVED BY:	TJR	FIGURE NO:	31
DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002	Attachment	

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REFERENCES
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IMAGERY DATE: 2024. ACCESSED 7/6/2026.



- LEGEND**
- AREA OF INTEREST (AOI)
 - PHOTO LOCATION
 - EXISTING CULVERT
 - EPHEMERAL STREAM
 - INTERMITTENT STREAM
 - UPLAND DRAINAGE

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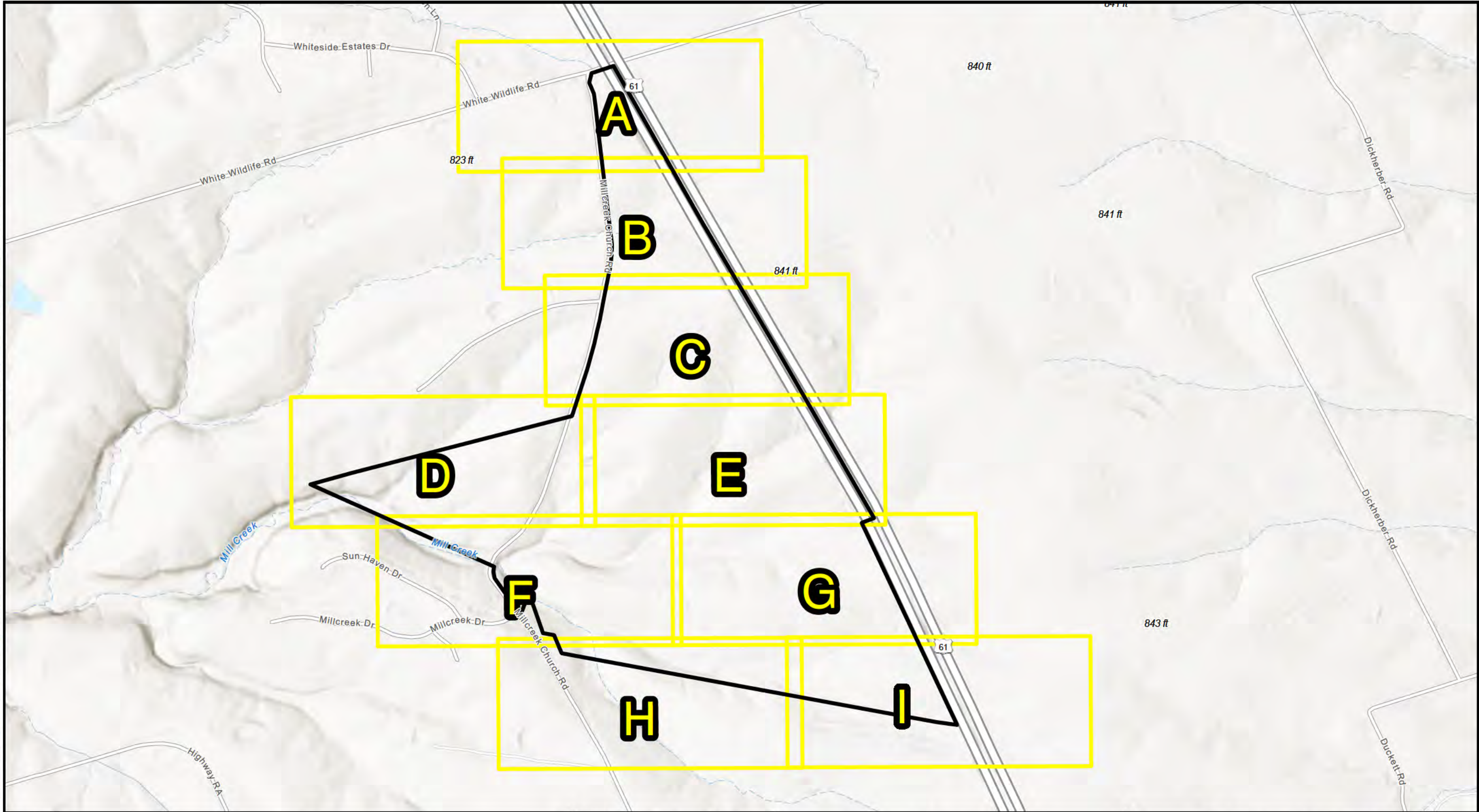
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

WATERS DELINEATION MAP

DRAWN BY:	TJG	CHECKED BY:	LAV	APPROVED BY:	TJR	FIGURE NO:	Attachment 3b
DATE:	7/6/2026	SCALE:	1" = 160'	PROJECT NO:	354-818.0002		

*Hand Signature on file

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LEGEND AREA OF INTEREST (AOI) MAP INDEX	 NORTH	 SCALE IN FEET 0 975 1,950	REFERENCES 1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE. ACCESSED 6/24/2026.	ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.	 Civil & Environmental Consultants, Inc. 1450 Beale Street Suite 305 St. Charles, MO 63303 Ph: 314.656.4566 · 866.250.3679 www.cecinc.com	MILLCREEK BESS PROJECT AMEREN LINCOLN COUNTY, MISSOURI	
						TERRAIN OVERVIEW MAP	
DRAWN BY: HDA DATE: 6/24/2026	CHECKED BY: LAV SCALE: 1" = 1,000'	APPROVED BY: TJR PROJECT NO: 354-818	FIGURE NO: Attachment B				

*Hand Signature on file

P:\350-000\354-818-GIS\Maps\EC02_AmerenMillcreekREC_Delineation\354818_EC02_AmerenMillcreekREC_Delineation.aprx [354818_EC04_FIG4_TERRAIN_MAP] 6/24/2026 2:16 PM (habner)



LEGEND		SCALE IN FEET		REFERENCES	
	AREA OF INTEREST (AOI)		WETLAND - PEM	1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE.	
	PHOTO LOCATION		OPEN WATER	IMAGERY DATE: 2024. ACCESSED 6/24/2026.	
	SAMPLING POINT		EPHEMERAL STREAM		
	EXISTING CULVERT		INTERMITTENT STREAM		

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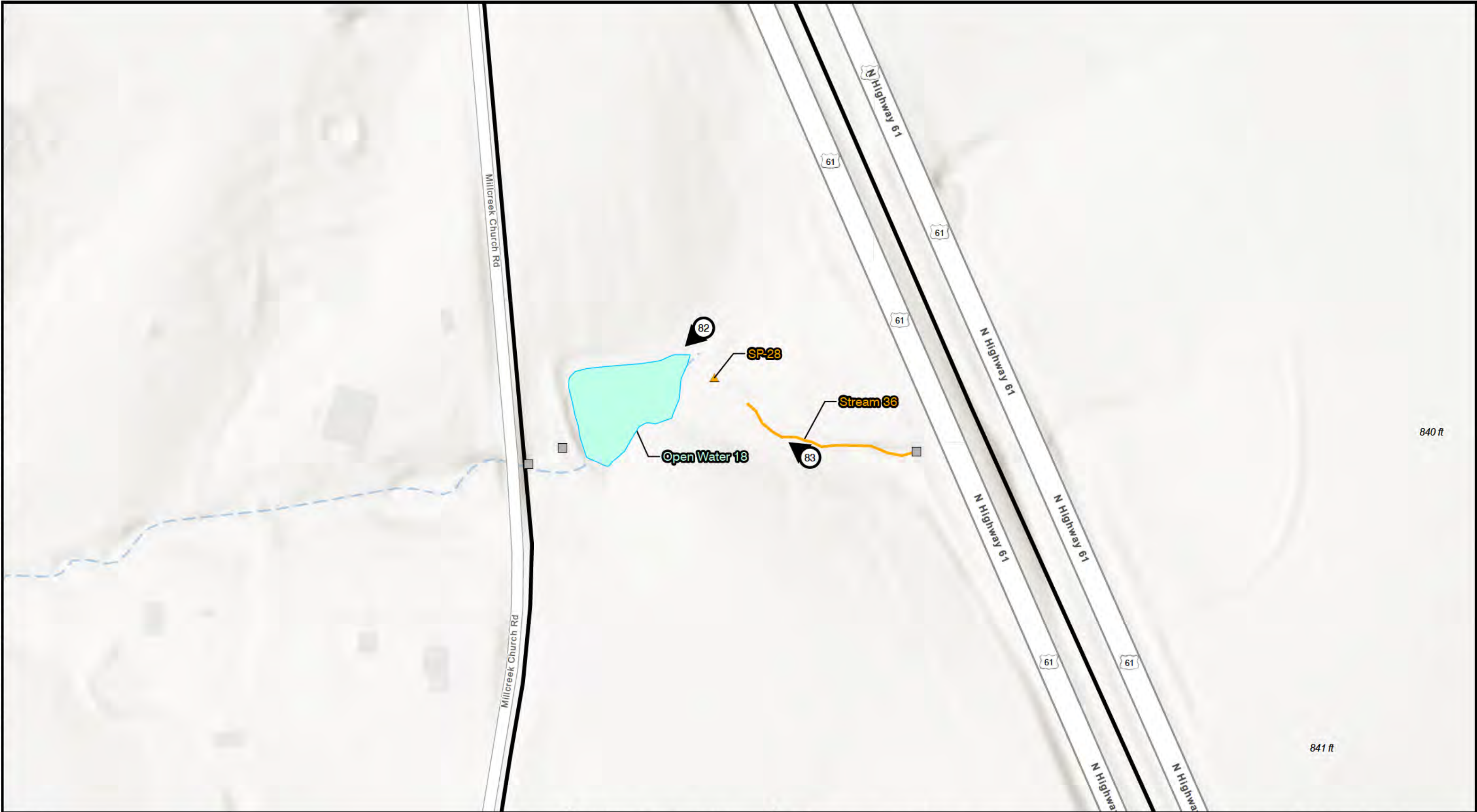
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AMEREN
LINCOLN COUNTY, MISSOURI

TERRAIN MAP

DRAWN BY:	RRT	CHECKED BY:	LAV	APPROVED BY:	TJR	FIGURE NO:
DATE:	6/24/2026	SCALE:	1" = 160'	PROJECT NO:	354-818	Attachment 4A

*Hand Signature on file



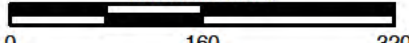
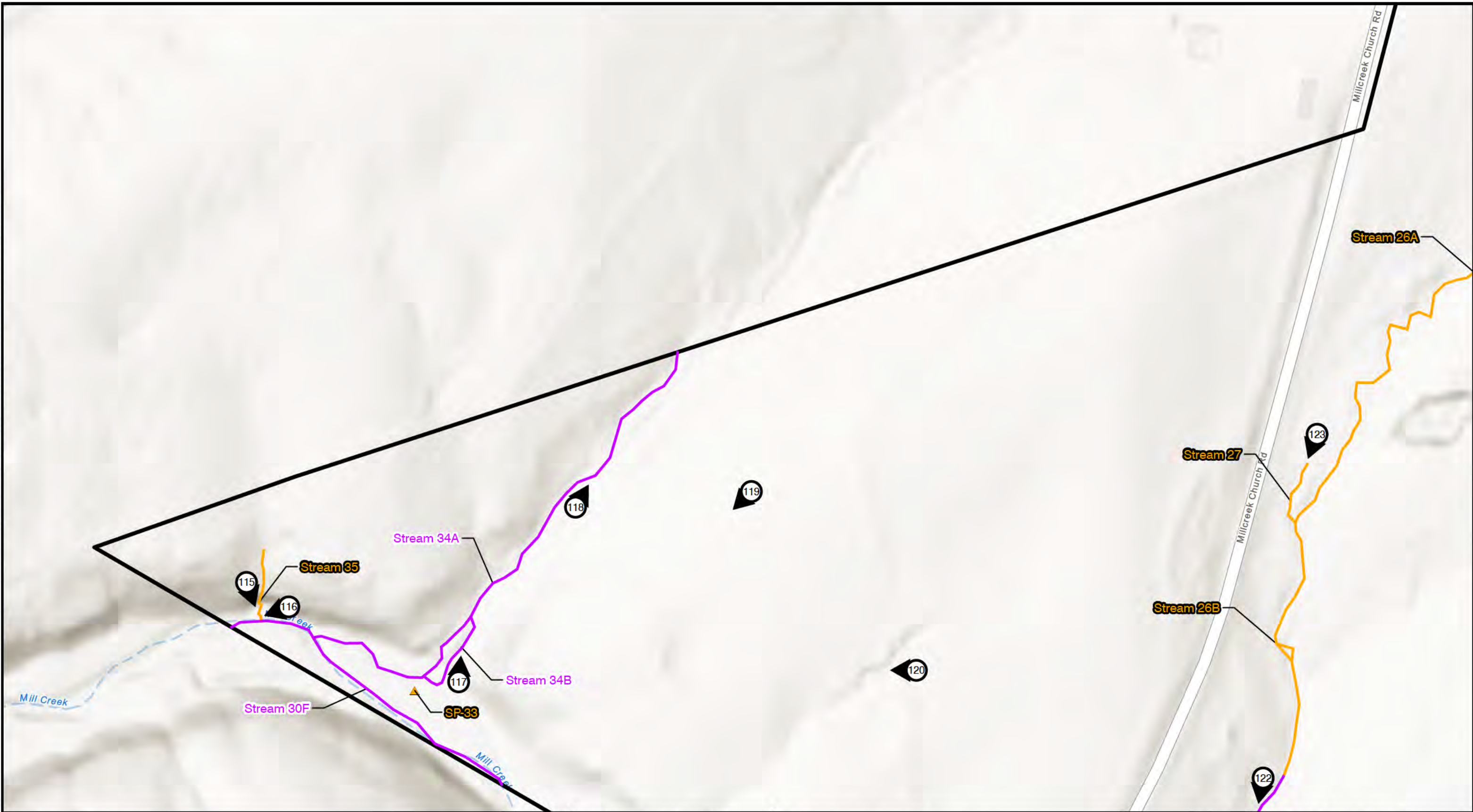
LEGEND		 NORTH	ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.	 Civil & Environmental Consultants, Inc.	1450 Beale Street Suite 305 St. Charles, MO 63303 Ph: 314.656.4566 · 866.250.3679 www.cecinc.com	MILLCREEK BESS PROJECT AMEREN LINCOLN COUNTY, MISSOURI	
 AREA OF INTEREST (AOI)	 WETLAND - PEM					TERRAIN MAP	
 PHOTO LOCATION	 OPEN WATER	SCALE IN FEET  0 160 320					
 SAMPLING POINT	 EPHEMERAL STREAM						
 EXISTING CULVERT	 INTERMITTENT STREAM						
REFERENCES 1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE. IMAGERY DATE: 2024. ACCESSED 6/24/2026.							
		DRAWN BY: RRT		CHECKED BY: LAV	APPROVED BY: TJR	FIGURE NO: 4B	
		DATE: 6/24/2026		SCALE: 1" = 160'	PROJECT NO: 354-818		

FIGURE NO: **Attachment 4B**

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PHOTO LOCATION	OPEN WATER				
SAMPLING POINT	EPHEMERAL STREAM				
EXISTING CULVERT	INTERMITTENT STREAM				

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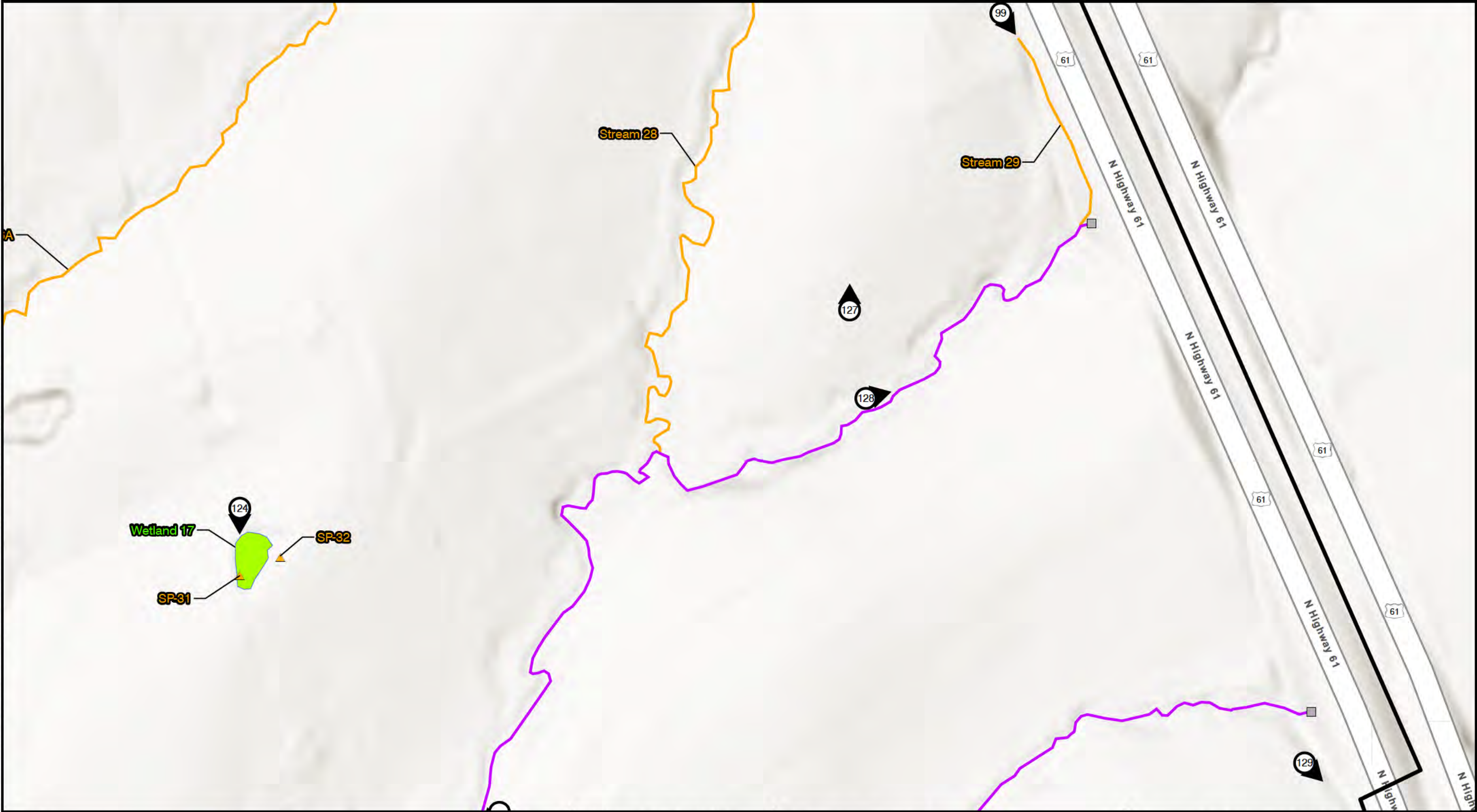
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TERRAIN MAP			
DRAWN BY:	RRT	CHECKED BY:	LAV
DATE:	6/24/2026	SCALE:	1" = 160'
APPROVED BY:	TJR	PROJECT NO:	354-818
		FIGURE NO:	Attachment 4B

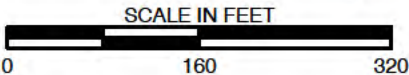
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LEGEND

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|--|------------------------|--|---------------------|
| | AREA OF INTEREST (AOI) | | WETLAND - PEM |
| | PHOTO LOCATION | | OPEN WATER |
| | SAMPLING POINT | | EPHEMERAL STREAM |
| | EXISTING CULVERT | | INTERMITTENT STREAM |



REFERENCES
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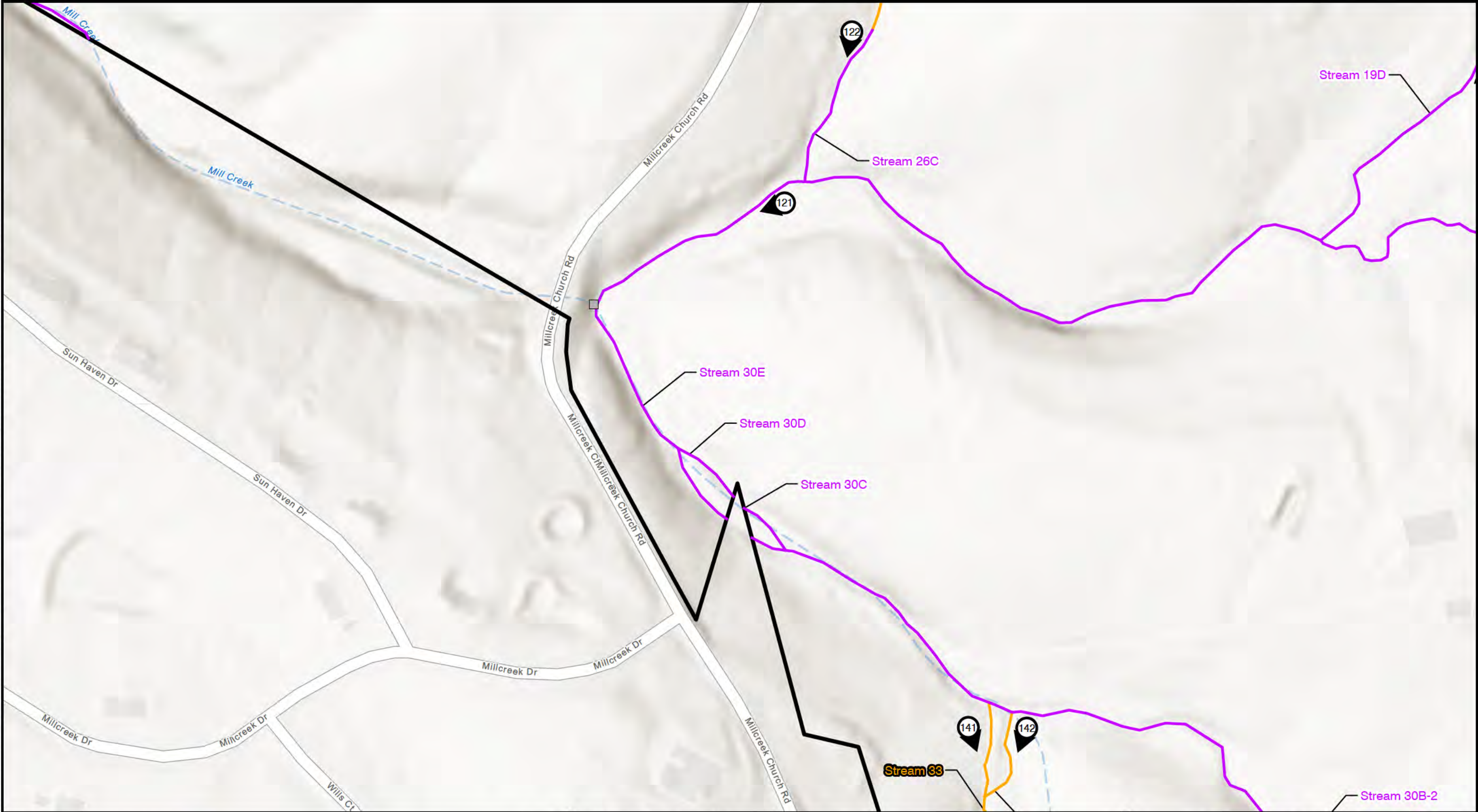
MILLCREEK BESS PROJECT
AMEREN
LINCOLN COUNTY, MISSOURI

TERRAIN MAP

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DATE:	6/24/2026	SCALE:	1" = 160'	PROJECT NO:	354-818	Attachment 4E

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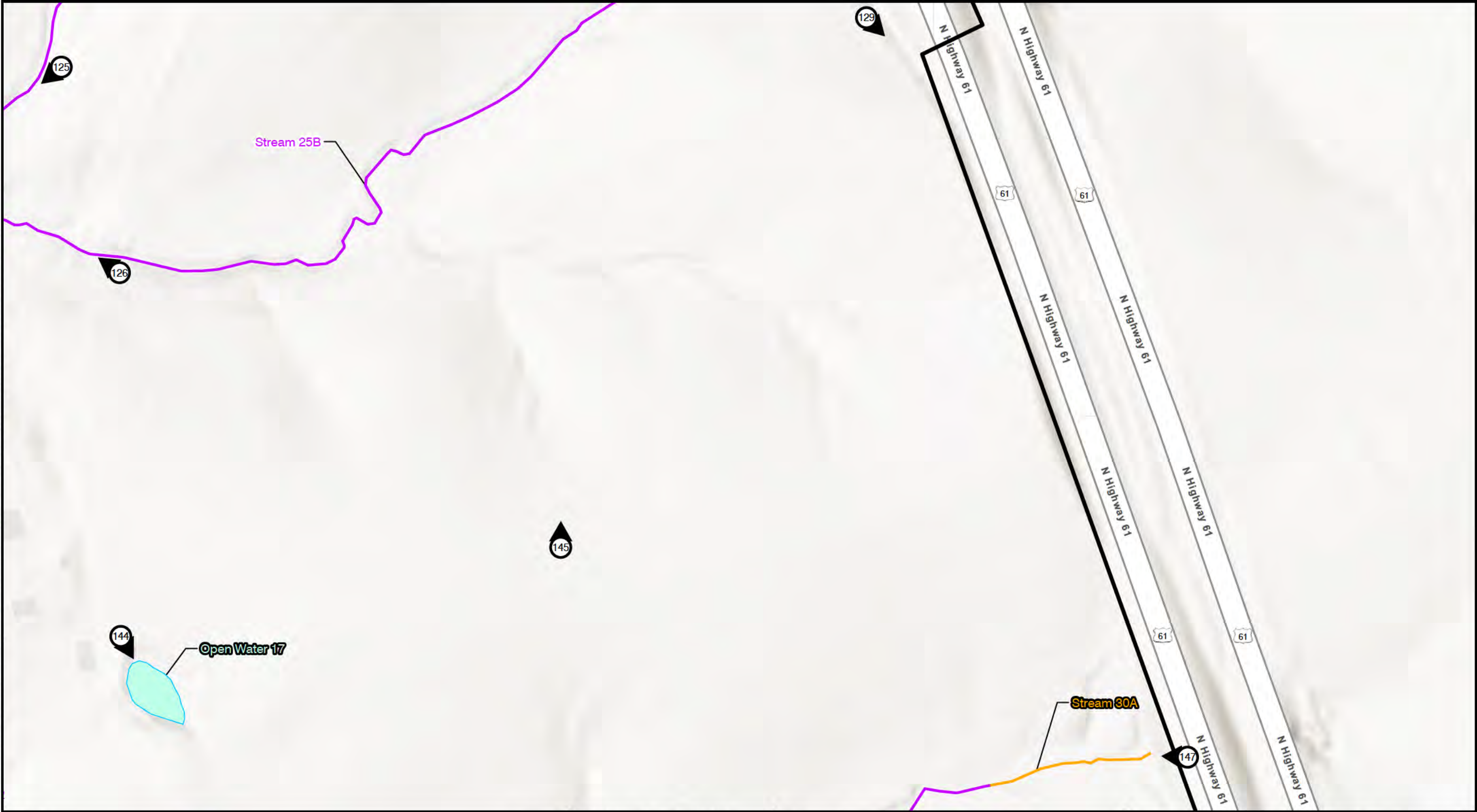
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LEGEND AREA OF INTEREST (AOI) PHOTO LOCATION SAMPLING POINT EXISTING CULVERT		WETLAND - PEM OPEN WATER EPHEMERAL STREAM INTERMITTENT STREAM		SCALE IN FEET 0 160 320 NORTH		ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.		 Civil & Environmental Consultants, Inc. 1450 Beale Street Suite 305 St. Charles, MO 63303 Ph: 314.656.4566 · 866.250.3679 www.cecinc.com		MILLCREEK BESS PROJECT AMEREN LINCOLN COUNTY, MISSOURI	
						TERRAIN MAP					
DRAWN BY: RRT		CHECKED BY: LAV		APPROVED BY: TJR		FIGURE NO: 45					
DATE: 6/24/2026		SCALE: 1" = 160'		PROJECT NO: 354-818							

*Hand Signature on file

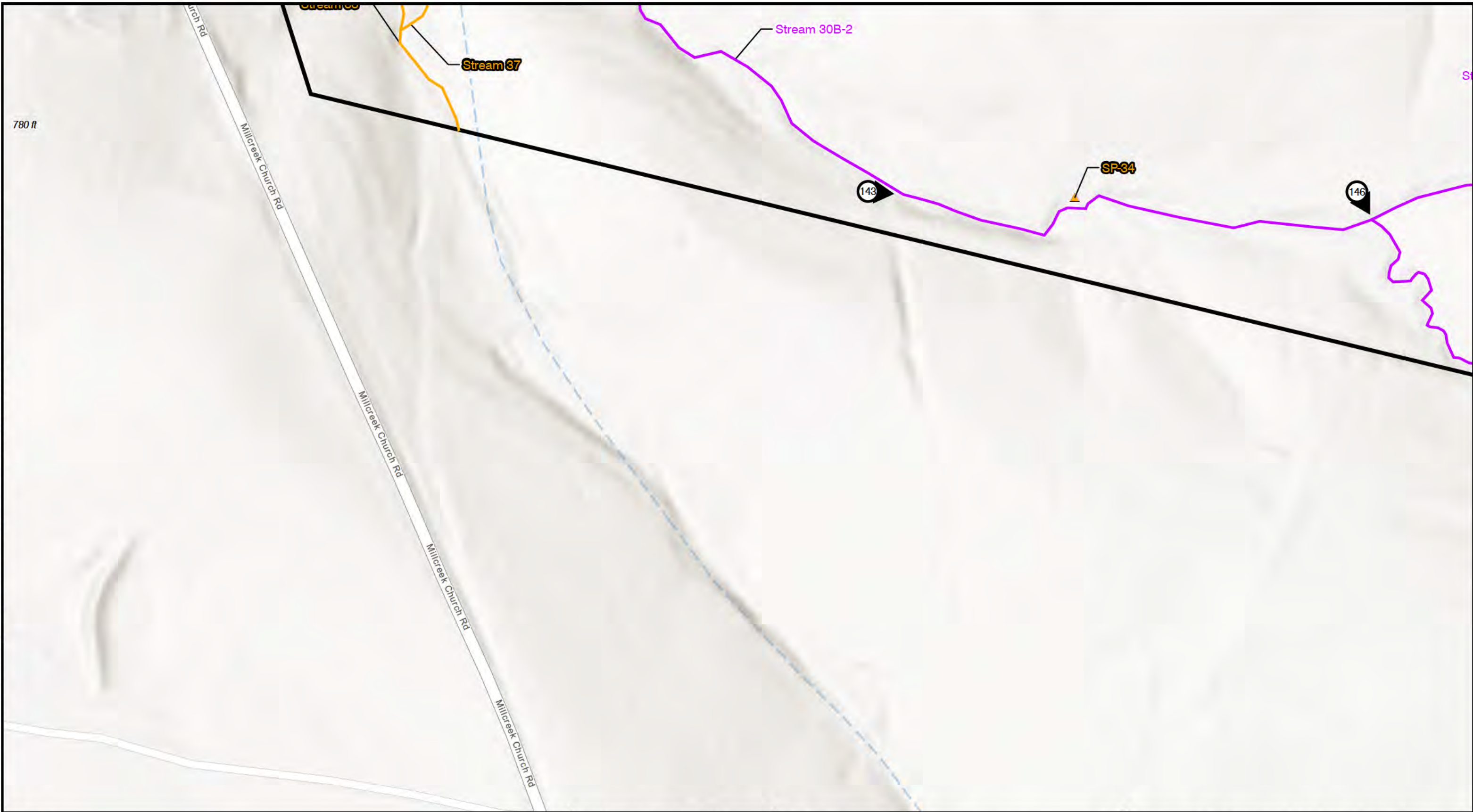
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LEGEND		 NORTH	SCALE IN FEET 0 160 320	REFERENCES 1. ESRI WORLD IMAGERY / ARCGIS MAP SERVICE. IMAGERY DATE: 2024. ACCESSED 6/24/2026.	ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, LLC. LANDSCAPE ARCHITECTURE SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, LLC.	 Civil & Environmental Consultants, Inc.	1450 Beale Street Suite 305 St. Charles, MO 63303 Ph: 314.656.4566 · 866.250.3679 www.cecinc.com	MILLCREEK BESS PROJECT AMEREN LINCOLN COUNTY, MISSOURI	
 AREA OF INTEREST (AOI)	 WETLAND - PEM							TERRAIN MAP	
 PHOTO LOCATION	 OPEN WATER								
 SAMPLING POINT	 EPHEMERAL STREAM								
 EXISTING CULVERT	 INTERMITTENT STREAM								
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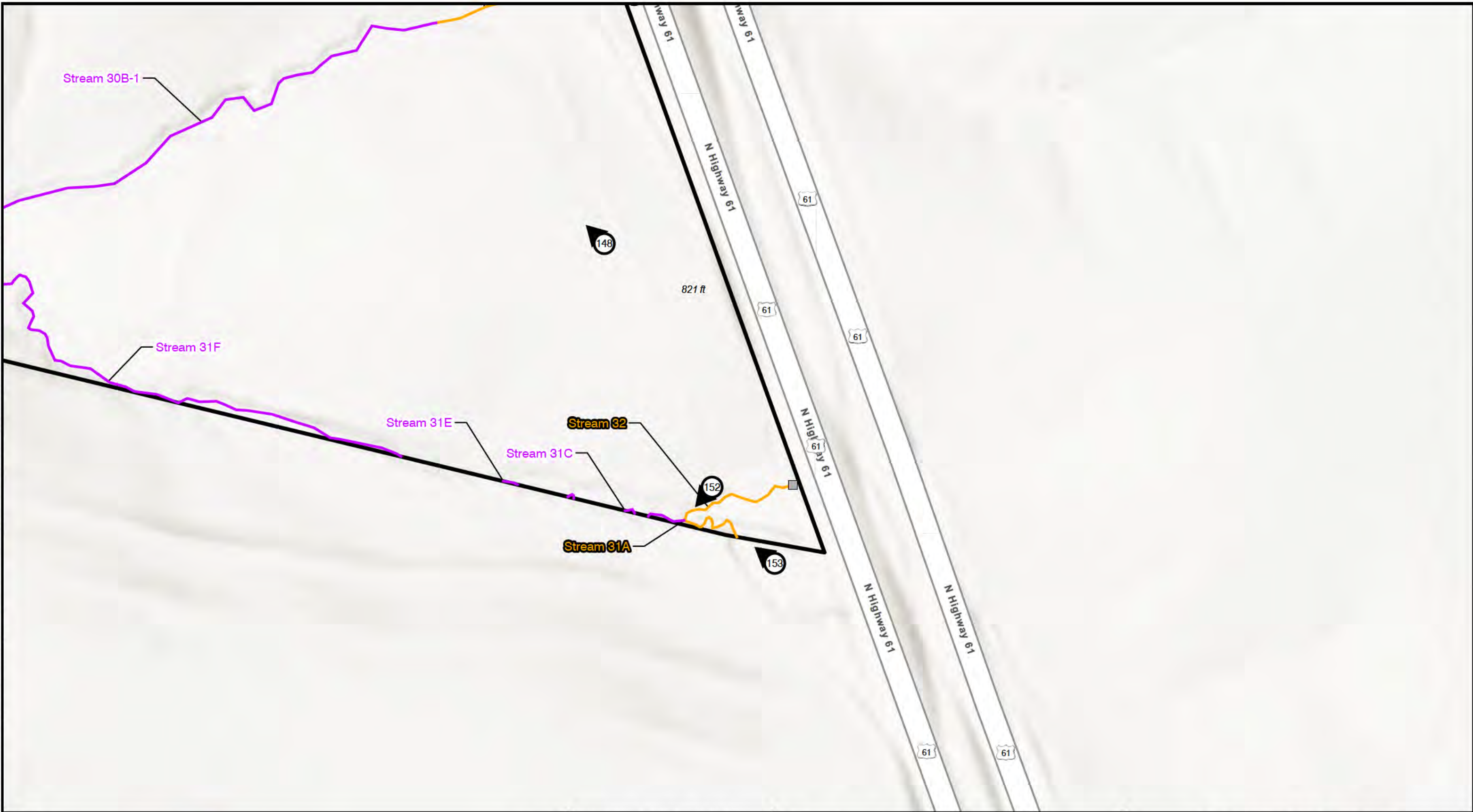
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	AREA OF INTEREST (AOI)		WETLAND - PEM		NORTH				1450 Beale Street Suite 305 St. Charles, MO 63303 Ph: 314.656.4566 · 866.250.3679 www.cecinc.com		
	PHOTO LOCATION		OPEN WATER								
	SAMPLING POINT		EPHEMERAL STREAM								
	EXISTING CULVERT		INTERMITTENT STREAM								
										TERRAIN MAP	
										FIGURE NO: 4B1	
										Attachment 4B1	
										*Hand Signature on file	

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LEGEND		WETLAND - PEM	
AREA OF INTEREST (AOI)	OPEN WATER		
PHOTO LOCATION	EPHEMERAL STREAM		
SAMPLING POINT	INTERMITTENT STREAM		
EXISTING CULVERT			

SCALE IN FEET

0 160 320

REFERENCES

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TERRAIN MAP

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DATE: 6/24/2026	SCALE: 1" = 160'	PROJECT NO: 354-818	

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APPENDIX A

SOILS INFORMATION



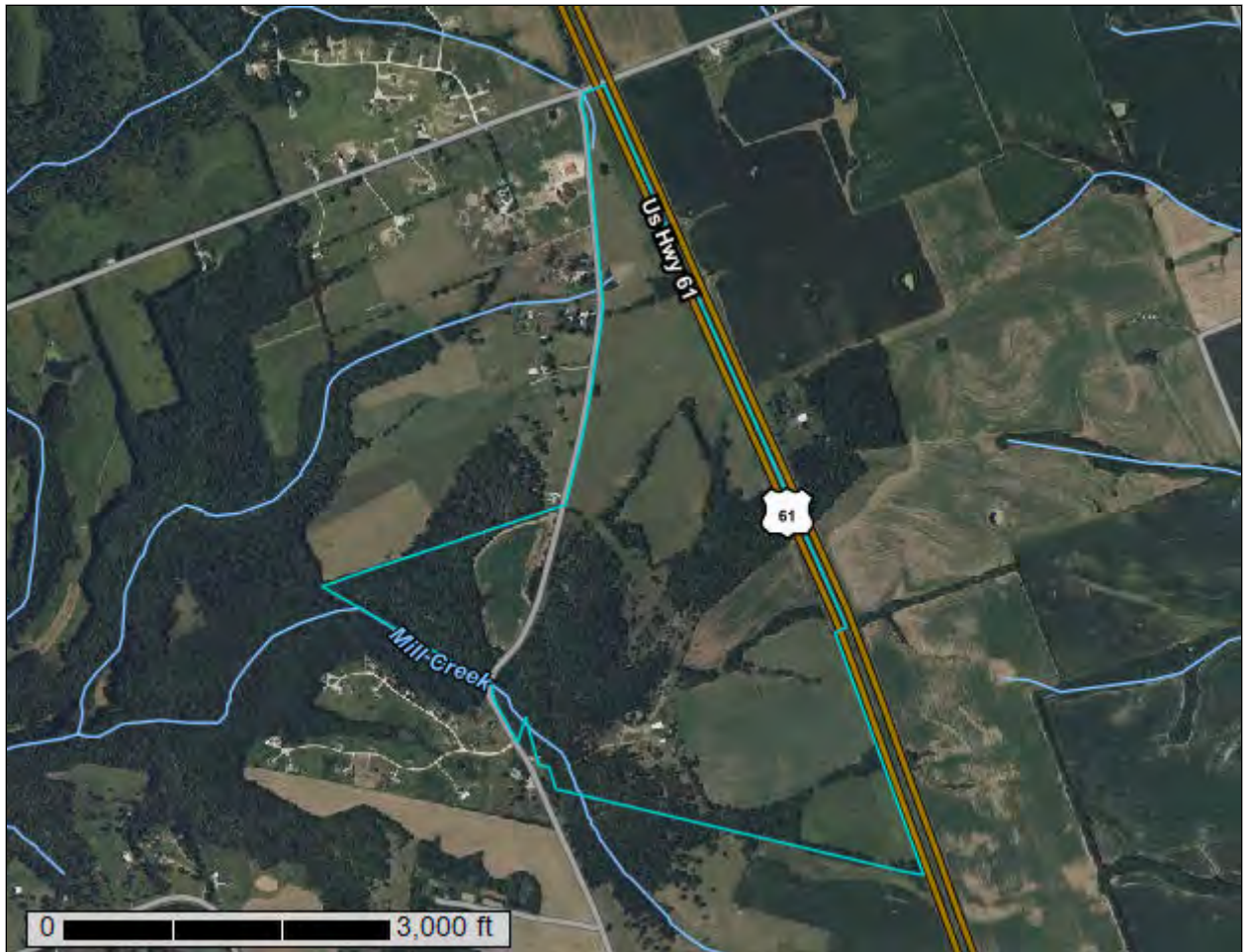
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Lincoln County, Missouri



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

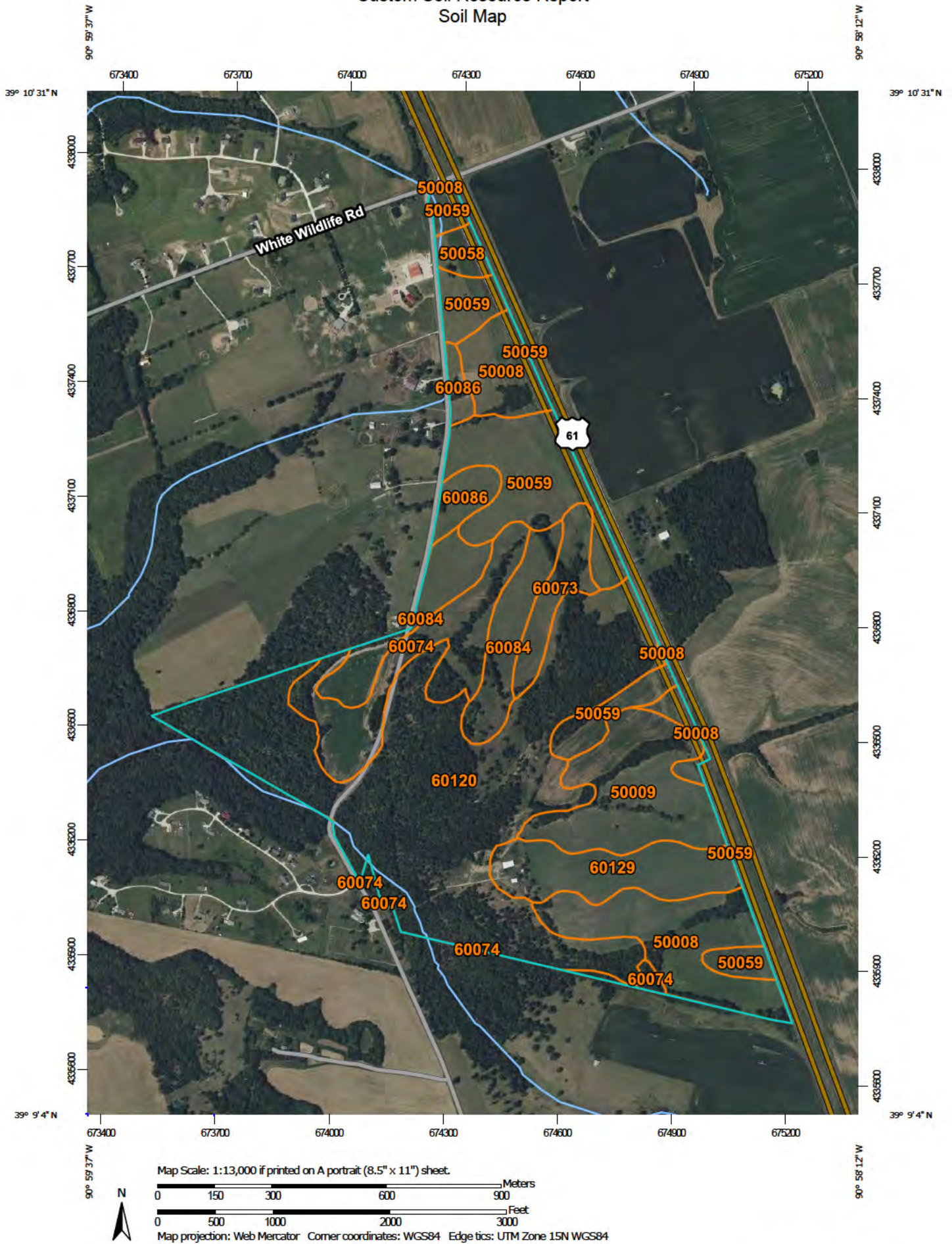
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout
 Borrow Pit
 Clay Spot
 Closed Depression
 Gravel Pit
 Gravelly Spot
 Landfill
 Lava Flow
 Marsh or swamp
 Mine or Quarry
 Miscellaneous Water
 Perennial Water
 Rock Outcrop
 Saline Spot
 Sandy Spot
 Severely Eroded Spot
 Sinkhole
 Slide or Slip
 Sodic Spot

 Spoil Area
 Stony Spot
 Very Stony Spot
 Wet Spot
 Other
 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lincoln County, Missouri
 Survey Area Data: Version 29, Sep 2, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 12, 2022—Aug 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
50008	Keswick silt loam, 5 to 9 percent slopes, eroded	40.8	12.5%
50009	Keswick silt loam, 9 to 14 percent slopes, eroded	30.0	9.2%
50058	Mexico silt loam, 0 to 2 percent slopes	3.6	1.1%
50059	Mexico silt loam, 1 to 4 percent slopes, eroded	42.1	12.9%
60073	Bucklick silty clay loam, 5 to 9 percent slopes, eroded	9.4	2.9%
60074	Bucklick silty clay loam, 9 to 14 percent slopes, eroded	28.2	8.6%
60084	Crider silt loam, 5 to 9 percent slopes, eroded	25.0	7.6%
60086	Crider silt loam, 9 to 14 percent slopes, eroded	7.6	2.3%
60120	Goss-Gasconade-Brussels complex, 9 to 70 percent slopes, very stony	120.6	36.8%
60129	Hatton silt loam, 5 to 9 percent slopes	20.4	6.2%
Totals for Area of Interest		327.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a

particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Custom Soil Resource Report

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lincoln County, Missouri

50008—Keswick silt loam, 5 to 9 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2y8d3
Landscape: Till plains
Elevation: 610 to 980 feet
Mean annual precipitation: 37 to 47 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 185 to 225 days
Farmland classification: Not prime farmland

Map Unit Composition

Keswick and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Keswick

Setting

Landscape: Till plains
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Pedisediment over till

Typical profile

Ap - 0 to 7 inches: silt loam
2Bt - 7 to 20 inches: clay
2Btg - 20 to 79 inches: clay loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F109XY007MO - Till Upland Woodland
Hydric soil rating: No

Minor Components

Lindley

Percent of map unit: 5 percent

Landscape: Till plains

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F109XY009MO - Till Protected Backslope Forest, F109XY022MO

- Till Exposed Backslope Woodland

Hydric soil rating: No

Leonard

Percent of map unit: 5 percent

Landscape: Till plains

Landform: Hillslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Head slope

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R113XY002MO - Loess Upland Prairie

Hydric soil rating: Yes

50009—Keswick silt loam, 9 to 14 percent slopes, eroded

Map Unit Setting

National map unit symbol: 31hhj

Landscape: Till plains

Elevation: 740 to 1,100 feet

Mean annual precipitation: 37 to 45 inches

Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 177 to 209 days

Farmland classification: Not prime farmland

Map Unit Composition

Keswick and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Keswick

Setting

Landscape: Till plains

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Custom Soil Resource Report

Across-slope shape: Convex

Parent material: Loess and/or pedis sediment over till

Typical profile

A - 0 to 4 inches: silt loam

Bt - 4 to 19 inches: silty clay loam

2Bt - 19 to 79 inches: clay loam

Properties and qualities

Slope: 9 to 14 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C/D

Ecological site: F109XY007MO - Till Upland Woodland

Hydric soil rating: No

Minor Components

Lindley

Percent of map unit: 10 percent

Landscape: Till plains

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F109XY022MO - Till Exposed Backslope Woodland

Hydric soil rating: No

Leonard

Percent of map unit: 5 percent

Landscape: Till plains

Landform: Hillslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Head slope

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R113XY002MO - Loess Upland Prairie

Hydric soil rating: Yes

50058—Mexico silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2wvc4

Landscape: Till plains

Elevation: 600 to 920 feet

Mean annual precipitation: 37 to 41 inches

Mean annual air temperature: 52 to 54 degrees F

Frost-free period: 189 to 212 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Mexico and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mexico

Setting

Landscape: Till plains

Landform: Ridges

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loess over pedisediment

Typical profile

Ap - 0 to 9 inches: silt loam

Btg1 - 9 to 15 inches: silt loam

Btg2 - 15 to 34 inches: clay

Btg3 - 34 to 42 inches: silty clay loam

2Btg4 - 42 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Custom Soil Resource Report

Ecological site: R113XY001MO - Claypan Summit Prairie
Hydric soil rating: Yes

Minor Components

Putnam

Percent of map unit: 10 percent
Landscape: Till plains
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R113XY001MO - Claypan Summit Prairie
Hydric soil rating: Yes

50059—Mexico silt loam, 1 to 4 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2wvc5
Landscape: Till plains
Elevation: 570 to 920 feet
Mean annual precipitation: 37 to 41 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 189 to 212 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Mexico and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mexico

Setting

Landscape: Till plains
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loess over pedisediment

Typical profile

Ap - 0 to 7 inches: silt loam
Btg1 - 7 to 15 inches: silt loam
Btg2 - 15 to 34 inches: clay
Btg3 - 34 to 42 inches: silty clay loam
2Btg4 - 42 to 79 inches: silty clay loam

Properties and qualities

Slope: 1 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R113XY001MO - Claypan Summit Prairie
Hydric soil rating: Yes

Minor Components

Armstrong

Percent of map unit: 7 percent
Landscape: Till plains
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R109XY006MO - Till Upland Prairie
Hydric soil rating: No

Putnam

Percent of map unit: 5 percent
Landscape: Till plains
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R113XY001MO - Claypan Summit Prairie
Hydric soil rating: Yes

Leonard

Percent of map unit: 3 percent
Landscape: Till plains
Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Head slope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R113XY002MO - Loess Upland Prairie
Hydric soil rating: Yes

60073—Bucklick silty clay loam, 5 to 9 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2qp4w

Landscape: Hills

Elevation: 500 to 900 feet

Mean annual precipitation: 37 to 47 inches

Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 184 to 228 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Bucklick and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucklick

Setting

Landscape: Hills

Landform: Ridges, Hillslopes

Landform position (two-dimensional): Summit, backslope

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loess over residuum weathered from dolomite

Typical profile

Ap - 0 to 7 inches: silty clay loam

Bt1 - 7 to 31 inches: silty clay

2Bt2 - 31 to 45 inches: silty clay

2Bt3/Cr - 45 to 53 inches: bedrock

2R - 53 to 80 inches: bedrock

Properties and qualities

Slope: 5 to 9 percent

Depth to restrictive feature: 40 to 60 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Custom Soil Resource Report

Hydrologic Soil Group: C

Ecological site: F115XB005MO - Loamy Upland Woodland

Hydric soil rating: No

Minor Components

Crider

Percent of map unit: 10 percent

Landscape: Hills

Landform: Divides

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: F116AY032MO - Loamy Footslope Forest

Hydric soil rating: No

60074—Bucklick silty clay loam, 9 to 14 percent slopes, eroded

Map Unit Setting

National map unit symbol: 668l

Landscape: Hills

Elevation: 500 to 1,200 feet

Mean annual precipitation: 37 to 47 inches

Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 184 to 228 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Bucklick and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucklick

Setting

Landscape: Hills

Landform: Ridges, Hillslopes

Landform position (two-dimensional): Summit, backslope

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loess over residuum weathered from dolomite

Typical profile

Ap - 0 to 7 inches: silty clay loam

Bt1 - 7 to 31 inches: silty clay

2Bt2 - 31 to 45 inches: silty clay

2Bt3/Cr - 45 to 53 inches: bedrock

2R - 53 to 80 inches: bedrock

Properties and qualities

Slope: 9 to 14 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F115XB005MO - Loamy Upland Woodland
Hydric soil rating: No

Minor Components

Goss

Percent of map unit: 10 percent
Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F115XB011MO - Chert Protected Backslope Forest,
F115XB048MO - Chert Exposed Backslope Woodland
Hydric soil rating: No

60084—Crider silt loam, 5 to 9 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2qp52
Landscape: Hills
Elevation: 350 to 2,500 feet
Mean annual precipitation: 37 to 49 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 172 to 232 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Crider and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crider

Setting

Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over residuum weathered from dolomite

Typical profile

Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 37 inches: silty clay loam
2Bt2 - 37 to 60 inches: silty clay loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F115XB005MO - Loamy Upland Woodland
Hydric soil rating: No

Minor Components

Bucklick

Percent of map unit: 10 percent
Landscape: Hills
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluvium
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F116AY030MO - Loamy Protected Backslope Forest,
F116AY046MO - Loamy Exposed Backslope Woodland
Hydric soil rating: No

Goss

Percent of map unit: 5 percent
Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope

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Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F115XB011MO - Chert Protected Backslope Forest,
F115XB048MO - Chert Exposed Backslope Woodland
Hydric soil rating: No

60086—Crider silt loam, 9 to 14 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2qp53
Landscape: Hills
Elevation: 350 to 2,500 feet
Mean annual precipitation: 37 to 49 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 172 to 232 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Crider and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crider

Setting

Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over residuum weathered from dolomite

Typical profile

Ap - 0 to 11 inches: silt loam
Bt1 - 11 to 37 inches: silty clay loam
2Bt2 - 37 to 60 inches: silty clay loam

Properties and qualities

Slope: 9 to 14 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F115XB005MO - Loamy Upland Woodland
Hydric soil rating: No

Minor Components

Bucklick

Percent of map unit: 10 percent
Landscape: Hills
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F116AY030MO - Loamy Protected Backslope Forest,
F116AY046MO - Loamy Exposed Backslope Woodland
Hydric soil rating: No

Goss

Percent of map unit: 5 percent
Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F115XB011MO - Chert Protected Backslope Forest,
F115XB048MO - Chert Exposed Backslope Woodland
Hydric soil rating: No

**60120—Goss-Gasconade-Brussels complex, 9 to 70 percent slopes,
very stony**

Map Unit Setting

National map unit symbol: 2qp5l
Landscape: Hills
Elevation: 300 to 1,200 feet
Mean annual precipitation: 37 to 47 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 184 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Goss and similar soils: 45 percent
Brussels and similar soils: 26 percent
Gasconade and similar soils: 24 percent

Custom Soil Resource Report

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Goss

Setting

Landscape: Hills

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Slope alluvium over residuum weathered from dolomite

Typical profile

A - 0 to 6 inches: gravelly silt loam

E - 6 to 19 inches: extremely gravelly silt loam

Bt1 - 19 to 60 inches: very gravelly silty clay loam

2Bt2 - 60 to 80 inches: cobbly clay

Properties and qualities

Slope: 9 to 70 percent

Surface area covered with cobbles, stones or boulders: 2.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

*Ecological site: F115XB011MO - Chert Protected Backslope Forest,
F115XB048MO - Chert Exposed Backslope Woodland*

Hydric soil rating: No

Description of Brussels

Setting

Landscape: Hills

Landform: Hillslopes

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Colluvium

Typical profile

A - 0 to 5 inches: very channery silty clay loam

Bw1 - 5 to 35 inches: very flaggy silty clay

Bw2 - 35 to 60 inches: extremely flaggy silty clay

Properties and qualities

Slope: 9 to 70 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F115XC010IL - Chert Exposed Backslope Woodland
Hydric soil rating: No

Description of Gasconade

Setting

Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

A - 0 to 10 inches: very channery silty clay loam
Bw - 10 to 13 inches: channery silty clay
R - 13 to 80 inches: bedrock

Properties and qualities

Slope: 9 to 70 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

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Ecological site: R115XB009MO - Shallow Limestone/Dolomite Upland Glade/
Woodland
Hydric soil rating: No

Minor Components

Menfro

Percent of map unit: 5 percent
Landscape: Hills
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F115XB003MO - Deep Loess Protected Backslope Forest,
F115XB043MO - Deep Loess Exposed Backslope Woodland
Hydric soil rating: No

60129—Hatton silt loam, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2qp5r
Landscape: Till plains
Elevation: 660 to 1,000 feet
Mean annual precipitation: 36 to 47 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 184 to 228 days
Farmland classification: Not prime farmland

Map Unit Composition

Hatton and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hatton

Setting

Landscape: Till plains
Landform: Hillslopes, Ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over pedisediment

Typical profile

Ap - 0 to 3 inches: silt loam
E - 3 to 6 inches: silt

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Bt - 6 to 32 inches: silty clay
2Btx - 32 to 48 inches: silty clay loam
2Bt - 48 to 60 inches: silt loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: 27 to 38 inches to undefined
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F115XB004MO - Loess Upland Woodland
Hydric soil rating: No

Minor Components

Keswick

Percent of map unit: 10 percent
Landscape: Till plains
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F109XY007MO - Till Upland Woodland
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Custom Soil Resource Report

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

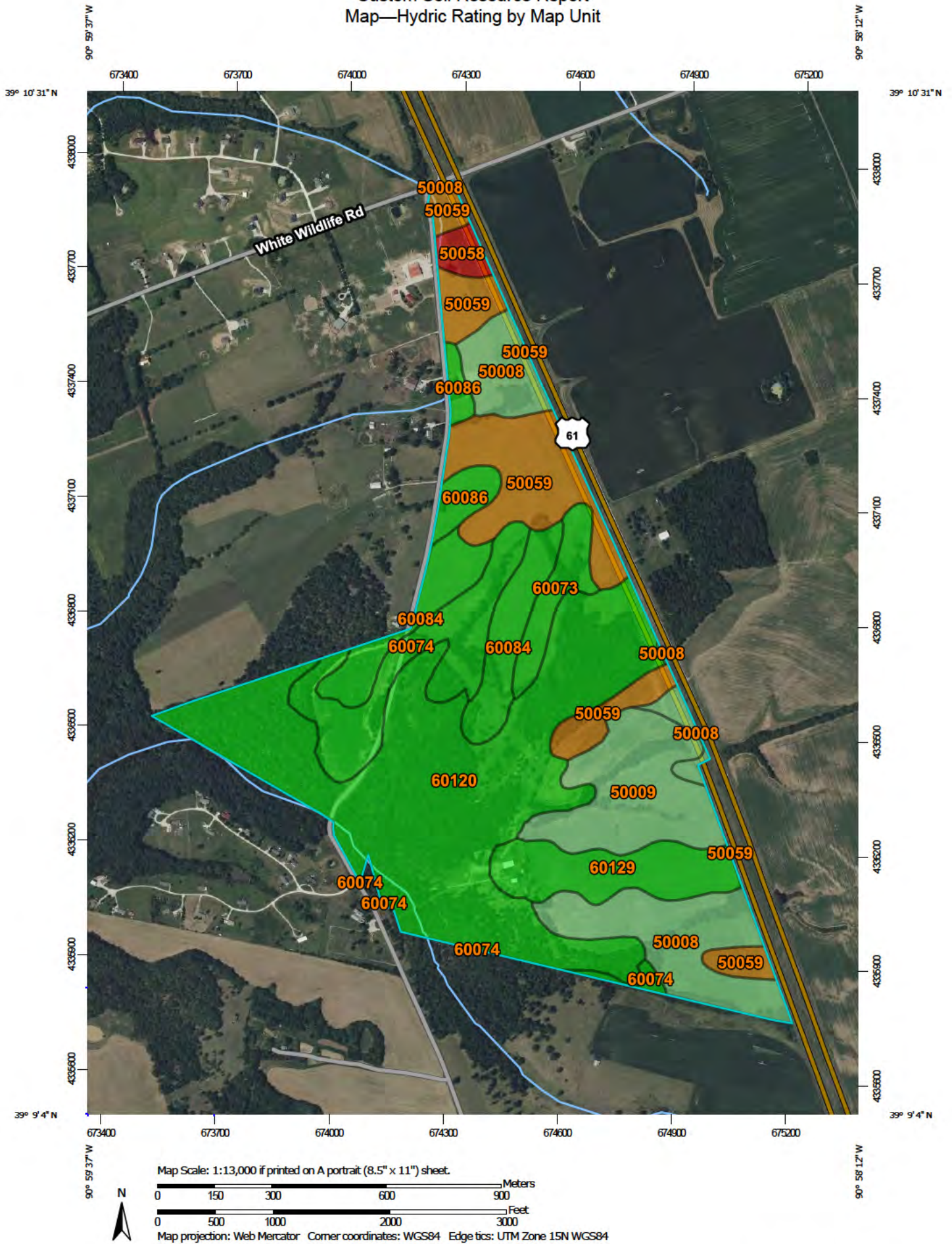
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Custom Soil Resource Report Map—Hydric Rating by Map Unit



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lincoln County, Missouri
Survey Area Data: Version 29, Sep 2, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 12, 2022—Aug 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
50008	Keswick silt loam, 5 to 9 percent slopes, eroded	5	40.8	12.5%
50009	Keswick silt loam, 9 to 14 percent slopes, eroded	5	30.0	9.2%
50058	Mexico silt loam, 0 to 2 percent slopes	100	3.6	1.1%
50059	Mexico silt loam, 1 to 4 percent slopes, eroded	93	42.1	12.9%
60073	Bucklick silty clay loam, 5 to 9 percent slopes, eroded	0	9.4	2.9%
60074	Bucklick silty clay loam, 9 to 14 percent slopes, eroded	0	28.2	8.6%
60084	Crider silt loam, 5 to 9 percent slopes, eroded	0	25.0	7.6%
60086	Crider silt loam, 9 to 14 percent slopes, eroded	0	7.6	2.3%
60120	Goss-Gasconade-Brussels complex, 9 to 70 percent slopes, very stony	0	120.6	36.8%
60129	Hatton silt loam, 5 to 9 percent slopes	0	20.4	6.2%
Totals for Area of Interest			327.5	100.0%

Rating Options—Hydric Rating by Map Unit*Aggregation Method: Percent Present**Component Percent Cutoff: None Specified**Tie-break Rule: Lower*

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
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- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX B

PHOTOGRAPHIC SUMMARY



Photo Number: 61
Description: Agricultural field. DOV is northeast.
Date Taken: 12/15/2025



Photo Number: 82
Description: Open Water 18. DOV is southwest.
Date Taken: 12/15/2025



Photo Number: 83
Description: Ephemeral Stream 36 looking upstream. DOV is northwest.
Date Taken: 12/15/2025



Photo Number: 84
Description: Agricultural field. DOV is northeast.
Date Taken: 12/15/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek Solar Project

Client Name: Ameren Missouri

Project Number: 354-818



Photo Number: 96
Description: Ephemeral Stream 26A looking upstream. DOV is northeast.
Date Taken: 12/15/2025



Photo Number: 97
Description: SP-29 and PEM Wetland 18. DOV is northwest.
Date Taken: 12/16/2025



Photo Number: 98
Description: Ephemeral Stream 28 looking upstream. DOV is northwest.
Date Taken: 12/15/2025



Photo Number: 99
Description: Ephemeral Stream 29 looking downstream. DOV is southeast.
Date Taken: 12/22/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek Solar Project

Client Name: Ameren Missouri

Project Number: 354-818



Photo Number: 115
Description: Ephemeral Stream 35. DOV is southeast.
Date Taken: 12/15/2025



Photo Number: 116
Description: Intermittent Stream 30F looking downstream. DOV is southeast.
Date Taken: 12/15/2025



Photo Number: 117
Description: Intermittent Stream 34B (backchannel) looking upstream. DOV is northeast.
Date Taken: 12/15/2025



Photo Number: 118
Description: Intermittent Stream 34A looking upstream. DOV is northeast.
Date Taken: 12/15/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818



Photo Number: 119
Description: Forested area. DOV is southwest.
Date Taken: 12/15/2025



Photo Number: 120
Description: Upland drainage looking downslope. DOV is west.
Date Taken: 12/15/2025



Photo Number: 121
Description: Intermittent Stream 19D looking downstream. DOV is southwest.
Date Taken: 12/15/2025



Photo Number: 122
Description: Intermittent Stream 26C looking downstream. DOV is southwest.
Date Taken: 12/15/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818



Photo Number: 123
Description: Ephemeral Stream 27 looking downstream. DOV is southwest.
Date Taken: 12/15/2025



Photo Number: 124
Description: SP-31 and PEM Wetland 17. DOV is south.
Date Taken: 12/16/2025



Photo Number: 125
Description: Intermittent Stream 19D looking downstream. DOV is southwest.
Date Taken: 12/15/2025



Photo Number: 126
Description: Intermittent Stream 25B looking downstream. DOV is northwest.
Date Taken: 12/16/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818



Photo Number: 127
Description: Forested area. DOV is north.
Date Taken: 12/16/2025



Photo Number: 128
Description: Intermittent Stream 19D looking upstream. DOV is northeast.
Date Taken: 12/15/2025



Photo Number: 129
Description: Upland drainage looking upslope. DOV is southeast.
Date Taken: 12/22/2025



Photo Number: 141
Description: Ephemeral Stream 33 looking upstream. DOV is southeast.
Date Taken: 12/15/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818



Photo Number: 142
Description: Ephemeral Stream 37 looking upstream. DOV is southwest.
Date Taken: 12/15/2025



Photo Number: 143
Description: Intermittent Stream 30B looking upstream. DOV is east.
Date Taken: 12/15/2025



Photo Number: 144
Description: Open Water 17. DOV is southeast.
Date Taken: 12/16/2025



Photo Number: 145
Description: Agricultural field. DOV is north.
Date Taken: 12/16/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818



Photo Number: 146
Description: Intermittent Stream 31F looking upstream. DOV is southeast.
Date Taken: 12/15/2025



Photo Number: 147
Description: Ephemeral Stream 30A looking downstream. DOV is west.
Date Taken: 12/22/2025



Photo Number: 148
Description: Agricultural field. DOV is northwest.
Date Taken: 12/15/2025



Photo Number: 152
Description: Ephemeral Stream 32 looking downstream. DOV is southwest.
Date Taken: 12/15/2025



Civil & Environmental Consultants, Inc.

Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818



Photo Number: 153
Description: Ephemeral Stream 31A looking downstream. DOV is northwest.
Date Taken: 12/22/2025



Project Name: Millcreek BESS Project

Client Name: Ameren

Project Number: 354-818

APPENDIX C

WETLAND DETERMINATION DATA SHEETS

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/16/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-28

Investigator(s): STG, CAR Section, Township, Range: Private Ownership/Not PLS

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None (flat)

Slope (%): 0-2% Lat: 39.168713 Long: -90.981507 Datum: NAD83 (2011)

Soil Map Unit Name: Keswick silt loam, 5 to 9 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No 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>X</u> No <u> </u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
--	---

Remarks:

The sample point was taken in an herbaceous area adjacent to a pond. Climatic conditions were wetter than normal at the time of the delineation.
Area does not meet all 3 wetland parameters.

Wetland ID: N/A; Cowardin Class:

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size: <u>30 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>None</u></td><td></td><td></td><td></td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td></tr><tr><td>3. <u> </u></td><td></td><td></td><td></td></tr><tr><td>4. <u> </u></td><td></td><td></td><td></td></tr><tr><td>5. <u> </u></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u> </u></td><td colspan="2" style="text-align: right;">= Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u> </u></td><td colspan="2"></td></tr></tbody></table> Sapling/Shrub Stratum Plot size: <u>15 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>None</u></td><td></td><td></td><td></td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td></tr><tr><td>3. <u> </u></td><td></td><td></td><td></td></tr><tr><td>4. <u> </u></td><td></td><td></td><td></td></tr><tr><td>5. <u> </u></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u> </u></td><td colspan="2" style="text-align: right;">= Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u> </u></td><td colspan="2"></td></tr></tbody></table> Herb Stratum Plot size: <u>5 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>Dactylis glomerata</u></td><td><u>50</u></td><td><u>Y</u></td><td><u>FACU</u></td></tr><tr><td>2. <u>Phleum pratense</u></td><td><u>50</u></td><td><u>Y</u></td><td><u>FACU</u></td></tr><tr><td>3. <u>Setaria pumila</u></td><td><u>5</u></td><td><u>N</u></td><td><u>FAC</u></td></tr><tr><td>4. <u> </u></td><td></td><td></td><td></td></tr><tr><td>5. <u> </u></td><td></td><td></td><td></td></tr><tr><td>6. <u> </u></td><td></td><td></td><td></td></tr><tr><td>7. <u> </u></td><td></td><td></td><td></td></tr><tr><td>8. <u> </u></td><td></td><td></td><td></td></tr><tr><td>9. <u> </u></td><td></td><td></td><td></td></tr><tr><td>10. <u> </u></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u>52.5</u></td><td colspan="2" style="text-align: right;">105 = Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u>21</u></td><td colspan="2"></td></tr></tbody></table> Woody Vine Stratum Plot size: <u>30 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>None</u></td><td></td><td></td><td></td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u> </u></td><td colspan="2" style="text-align: right;">= Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u> </u></td><td colspan="2"></td></tr></tbody></table>		Absolute % Cover	Dominant Species?	Indicator Status	1. <u>None</u>				2. <u> </u>				3. <u> </u>				4. <u> </u>				5. <u> </u>				50% of total cover: <u> </u>		= Total Cover		20% of total cover: <u> </u>					Absolute % Cover	Dominant Species?	Indicator Status	1. <u>None</u>				2. <u> </u>				3. <u> </u>				4. <u> </u>				5. <u> </u>				50% of total cover: <u> </u>		= Total Cover		20% of total cover: <u> </u>					Absolute % Cover	Dominant Species?	Indicator Status	1. <u>Dactylis glomerata</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	2. <u>Phleum pratense</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	3. <u>Setaria pumila</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	4. <u> </u>				5. <u> </u>				6. <u> </u>				7. <u> </u>				8. <u> </u>				9. <u> </u>				10. <u> </u>				50% of total cover: <u>52.5</u>		105 = Total Cover		20% of total cover: <u>21</u>					Absolute % Cover	Dominant Species?	Indicator Status	1. <u>None</u>				2. <u> </u>				50% of total cover: <u> </u>		= Total Cover		20% of total cover: <u> </u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"><tr><td>Total % Cover of:</td><td>Multiply by:</td></tr><tr><td>OBL species <u> </u></td><td>x 1 = <u> </u></td></tr><tr><td>FACW species <u> </u></td><td>x 2 = <u> </u></td></tr><tr><td>FAC species <u> </u></td><td>x 3 = <u> </u></td></tr><tr><td>FACU species <u> </u></td><td>x 4 = <u> </u></td></tr><tr><td>UPL species <u> </u></td><td>x 5 = <u> </u></td></tr><tr><td>Column Totals: <u> </u> (A)</td><td><u> </u> (B)</td></tr><tr><td colspan="2">Prevalence Index = B/A = <u> </u></td></tr></table> Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ <u>No</u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)	Prevalence Index = B/A = <u> </u>	
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	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																						
1. <u>Dactylis glomerata</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>																																																																																																																																																						
2. <u>Phleum pratense</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>																																																																																																																																																						
3. <u>Setaria pumila</u>	<u>5</u>	<u>N</u>	<u>FAC</u>																																																																																																																																																						
4. <u> </u>																																																																																																																																																									
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	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																						
1. <u>None</u>																																																																																																																																																									
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Column Totals: <u> </u> (A)	<u> </u> (B)																																																																																																																																																								
Prevalence Index = B/A = <u> </u>																																																																																																																																																									

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

SOIL

Sampling Point SP-28

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		
Field Observations:			
Surface Water Present?	Yes ☐ No ☒	Depth (inches):	
Water Table Present?	Yes ☐ No ☒	Depth (inches):	
Saturation Present?	Yes ☐ No ☒	Depth (inches):	
(includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/16/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-29

Investigator(s): STG, CAR Section, Township, Range: Private Ownership/Not PLS

Landform (hillside, terrace, etc.): Excavated pond Local relief (concave, convex, none): Concave

Slope (%): 0-2% Lat: 39.165190 Long: -90.979885 Datum: NAD83 (2011)

Soil Map Unit Name: Mexico silt loam, 1 to 4 percent slopes, eroded NWI classification: PUBFh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No 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>
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Remarks:

The sample point was taken in an herbaceous depression that was formerly a pond. The pond has transitioned into a PEM wetland over time. Climatic conditions were wetter than normal at the time of the delineation.

Wetland ID: Wetland 18; Cowardin Class: PEM

VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <u>30 ft radius</u>	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>					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%</u> (A/B)
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
		= Total Cover			
50% of total cover: <u> </u>		20% of total cover: <u> </u>			
Sapling/Shrub Stratum Plot size: <u>15 ft radius</u>					
1. <u>None</u>					Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
		= Total Cover			
50% of total cover: <u> </u>		20% of total cover: <u> </u>			
Herb Stratum Plot size: <u>5 ft radius</u>					
1. <u>Carex vulpinoidea</u>		<u>55</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>Yes</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa pratensis</u>		<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Ambrosia artemisiifolia</u>		<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Stellaria media</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Trifolium repens</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
6. <u> </u>					
7. <u> </u>					
8. <u> </u>					
9. <u> </u>					
10. <u> </u>					
		<u>95</u> = Total Cover			
50% of total cover: <u>47.5</u>		20% of total cover: <u>19</u>			
Woody Vine Stratum Plot size: <u>30 ft radius</u>					
1. <u>None</u>					Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u> </u>					
		= Total Cover			
50% of total cover: <u> </u>		20% of total cover: <u> </u>			

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

SOIL

Sampling Point SP-29**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		
0-16	10YR 4/2	85	5YR 4/6	15	C	PL,M	Loam/Clayey	

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Dark Surface (S7)
☐ Stratified Layers (A5)	☐ Loamy Mucky Mineral (F1)
☐ 2 cm Muck (A10)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☒ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)
☐ Iron Monosulfide (A18)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ 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:**

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): <u> </u>
Water Table Present?	Yes ☐	No ☒	Depth (inches): <u> </u>
Saturation Present?	Yes ☐	No ☒	Depth (inches): <u> </u>
(includes capillary fringe)			

Wetland Hydrology Present? Yes ☒ No ☐**Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:****Remarks:**

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/16/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-30

Investigator(s): STG, CAR Section, Township, Range: Private Ownership/ Not PLS

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None (flat)

Slope (%): 0-2% Lat: 39.165042 Long: -90.980081 Datum: NAD83 (2011)

Soil Map Unit Name: Crider silt loam, 5 to 9 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

<table style="width: 100%;"><tr><td>Hydrophytic Vegetation Present?</td><td>Yes <u> </u></td><td>No <u>X</u></td></tr><tr><td>Hydric Soil Present?</td><td>Yes <u> </u></td><td>No <u>X</u></td></tr><tr><td>Wetland Hydrology Present?</td><td>Yes <u> </u></td><td>No <u>X</u></td></tr></table>	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> </u>	No <u>X</u>	<table style="width: 100%;"><tr><td style="text-align: center;">Is the Sampled Area within a Wetland?</td><td>Yes <u> </u></td><td>No <u>X</u></td></tr></table>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
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> </u>	No <u>X</u>											
Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>											

Remarks:

The sample point was taken in an herbaceous area adjacent to a depression. Climatic conditions were wetter than normal at the time of the delineation.

Wetland ID: N/A; Cowardin Class:

VEGETATION – Use scientific names of plants.

<table style="width: 100%;"><tr><td style="text-align: left;">Tree Stratum</td><td>Plot size: <u>30 ft radius</u></td><td>Absolute % Cover</td><td>Dominant Species?</td><td>Indicator Status</td></tr><tr><td>1. <u>None</u></td><td></td><td></td><td></td><td></td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>3. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>4. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>5. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u> </u></td><td colspan="3" style="text-align: right;">= Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u> </u></td><td colspan="3"></td></tr><tr><td style="text-align: left;">Sapling/Shrub Stratum</td><td>Plot size: <u>15 ft radius</u></td><td></td><td></td><td></td></tr><tr><td>1. <u>None</u></td><td></td><td></td><td></td><td></td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>3. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>4. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>5. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u> </u></td><td colspan="3" style="text-align: right;">= Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u> </u></td><td colspan="3"></td></tr><tr><td style="text-align: left;">Herb Stratum</td><td>Plot size: <u>5 ft radius</u></td><td></td><td></td><td></td></tr><tr><td>1. <u>Phleum pratense</u></td><td></td><td style="text-align: center;">100</td><td style="text-align: center;">Y</td><td style="text-align: center;">FACU</td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>3. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>4. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>5. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>6. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>7. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>8. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>9. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td>10. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u>50</u></td><td colspan="3" style="text-align: right;">100 = Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u>20</u></td><td colspan="3"></td></tr><tr><td style="text-align: left;">Woody Vine Stratum</td><td>Plot size: <u>30 ft radius</u></td><td></td><td></td><td></td></tr><tr><td>1. <u>None</u></td><td></td><td></td><td></td><td></td></tr><tr><td>2. <u> </u></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2" style="text-align: right;">50% of total cover: <u> </u></td><td colspan="3" style="text-align: right;">= Total Cover</td></tr><tr><td colspan="2" style="text-align: right;">20% of total cover: <u> </u></td><td colspan="3"></td></tr></table>	Tree Stratum	Plot size: <u>30 ft radius</u>	Absolute % Cover	Dominant Species?	Indicator Status	1. <u>None</u>					2. <u> </u>					3. <u> </u>					4. <u> </u>					5. <u> </u>					50% of total cover: <u> </u>		= Total Cover			20% of total cover: <u> </u>					Sapling/Shrub Stratum	Plot size: <u>15 ft radius</u>				1. <u>None</u>					2. <u> </u>					3. <u> </u>					4. <u> </u>					5. <u> </u>					50% of total cover: <u> </u>		= Total Cover			20% of total cover: <u> </u>					Herb Stratum	Plot size: <u>5 ft radius</u>				1. <u>Phleum pratense</u>		100	Y	FACU	2. <u> </u>					3. <u> </u>					4. <u> </u>					5. <u> </u>					6. <u> </u>					7. <u> </u>					8. <u> </u>					9. <u> </u>					10. <u> </u>					50% of total cover: <u>50</u>		100 = Total Cover			20% of total cover: <u>20</u>					Woody Vine Stratum	Plot size: <u>30 ft radius</u>				1. <u>None</u>					2. <u> </u>					50% of total cover: <u> </u>		= Total Cover			20% of total cover: <u> </u>					<table style="width: 100%;"><tr><td colspan="2">Dominance Test worksheet:</td></tr><tr><td>Number of Dominant Species That Are OBL, FACW, or FAC:</td><td style="text-align: right;"><u>0</u> (A)</td></tr><tr><td>Total Number of Dominant Species Across All Strata:</td><td style="text-align: right;"><u>1</u> (B)</td></tr><tr><td>Percent of Dominant Species That Are OBL, FACW, or FAC:</td><td style="text-align: right;"><u>0%</u> (A/B)</td></tr><tr><td colspan="2">Prevalence Index worksheet:</td></tr><tr><td>Total % Cover of:</td><td>Multiply by:</td></tr><tr><td>OBL species <u> </u></td><td>x 1 = <u> </u></td></tr><tr><td>FACW species <u> </u></td><td>x 2 = <u> </u></td></tr><tr><td>FAC species <u> </u></td><td>x 3 = <u> </u></td></tr><tr><td>FACU species <u> </u></td><td>x 4 = <u> </u></td></tr><tr><td>UPL species <u> </u></td><td>x 5 = <u> </u></td></tr><tr><td>Column Totals: <u> </u> (A)</td><td><u> </u> (B)</td></tr><tr><td colspan="2">Prevalence Index = B/A = <u> </u></td></tr><tr><td colspan="2">Hydrophytic Vegetation Indicators:</td></tr><tr><td colspan="2"><u>No</u> 1 - Rapid Test for Hydrophytic Vegetation</td></tr><tr><td colspan="2"><u>No</u> 2 - Dominance Test is >50%</td></tr><tr><td colspan="2">3 - Prevalence Index is ≤3.0¹</td></tr><tr><td colspan="2"><u>No</u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</td></tr><tr><td colspan="2"><u>No</u> Problematic Hydrophytic Vegetation¹ (Explain)</td></tr><tr><td colspan="2">¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</td></tr><tr><td colspan="2">Hydrophytic Vegetation Present?</td></tr><tr><td>Yes <u> </u></td><td>No <u>X</u></td></tr></table>	Dominance Test worksheet:		Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</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>0%</u> (A/B)	Prevalence Index worksheet:		Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)	Prevalence Index = B/A = <u> </u>		Hydrophytic Vegetation Indicators:		<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation		<u>No</u> 2 - Dominance Test is >50%		3 - Prevalence Index is ≤3.0 ¹		<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		Hydrophytic Vegetation Present?		Yes <u> </u>	No <u>X</u>
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Herb Stratum	Plot size: <u>5 ft radius</u>																																																																																																																																																																																																																						
1. <u>Phleum pratense</u>		100	Y	FACU																																																																																																																																																																																																																			
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Woody Vine Stratum	Plot size: <u>30 ft radius</u>																																																																																																																																																																																																																						
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Dominance Test worksheet:																																																																																																																																																																																																																							
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Total Number of Dominant Species Across All Strata:	<u>1</u> (B)																																																																																																																																																																																																																						
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FAC species <u> </u>	x 3 = <u> </u>																																																																																																																																																																																																																						
FACU species <u> </u>	x 4 = <u> </u>																																																																																																																																																																																																																						
UPL species <u> </u>	x 5 = <u> </u>																																																																																																																																																																																																																						
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<u>No</u> 2 - Dominance Test is >50%																																																																																																																																																																																																																							
3 - Prevalence Index is ≤3.0 ¹																																																																																																																																																																																																																							
<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)																																																																																																																																																																																																																							
<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)																																																																																																																																																																																																																							
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																																																																																																																																																																																																							
Hydrophytic Vegetation Present?																																																																																																																																																																																																																							
Yes <u> </u>	No <u>X</u>																																																																																																																																																																																																																						

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

SOIL

Sampling Point SP-30**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		
0-16	10YR 4/4	100					Loam/Clayey	

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Dark Surface (S7)
☐ Stratified Layers (A5)	☐ Loamy Mucky Mineral (F1)
☐ 2 cm Muck (A10)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)
☐ Iron Monosulfide (A18)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ 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 X **Remarks:**

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ 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)			

Wetland Hydrology Present? Yes No X **Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:****Remarks:**

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/16/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-31

Investigator(s): STG, CAR Section, Township, Range: _____

Landform (hillside, terrace, etc.): Excavated pond Local relief (concave, convex, none): Concave

Slope (%): 0-2% Lat: 39.160573 Long: -90.982085 Datum: NAD83 (2011)

Soil Map Unit Name: Crider silt loam, 5 to 9 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No 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 _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
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Remarks:

The sample point was taken in an herbaceous depression that was formerly a pond. The pond has since transitioned into a PEM wetland. Climatic conditions were wetter than normal at the time of the delineation.

Wetland ID: Wetland 17; Cowardin Class: PEM

VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <u>30 ft radius</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>None</u>					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%</u> (A/B)
2. _____					
3. _____					
4. _____					
5. _____					
		= Total Cover			
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum	Plot size: <u>15 ft radius</u>				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 = _____
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
		= Total Cover			
50% of total cover: _____		20% of total cover: _____			
Herb Stratum	Plot size: <u>5 ft radius</u>				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>Yes</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex vulpinoidea</u>		<u>55</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Poa pratensis</u>		<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Ambrosia artemisiifolia</u>		<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Stellaria media</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Trifolium repens</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____					
7. _____					
8. _____					
9. _____					
		= Total Cover			
50% of total cover: <u>47.5</u>		20% of total cover: <u>19</u>			
Woody Vine Stratum	Plot size: <u>30 ft radius</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>None</u>					
2. _____					
		= Total Cover			
50% of total cover: _____		20% of total cover: _____			

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

SOIL

Sampling Point SP-31**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		
0-16	10YR 4/2	85	5YR 4/6	15	C	PL,M	Loam/Clayey	

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Dark Surface (S7)
☐ Stratified Layers (A5)	☐ Loamy Mucky Mineral (F1)
☐ 2 cm Muck (A10)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☒ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)
☐ Iron Monosulfide (A18)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ 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:**

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☒ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____
(includes capillary fringe)			

Wetland Hydrology Present? Yes ☒ No ☐**Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:****Remarks:**

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/16/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-32

Investigator(s): STG, CAR Section, Township, Range: _____

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave

Slope (%): 2-10% Lat: 39.160644 Long: -90.981833 Datum: NAD83 (2011)

Soil Map Unit Name: Crider silt loam, 5 to 9 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No 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 _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	

Remarks:

The sample point was taken on an herbaceous hillslope adjacent to a depression. Climatic conditions were wetter than normal at the time of the delineation.

Wetland ID: N/A; Cowardin Class:

VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <u>30 ft radius</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
5. _____					
50% of total cover: _____		= Total Cover		20% of total cover: _____	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 = _____
Sapling/Shrub Stratum	Plot size: <u>15 ft radius</u>				
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
5. _____					
50% of total cover: _____		= Total Cover		20% of total cover: _____	
Herb Stratum	Plot size: <u>5 ft radius</u>				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>Phleum pratense</u>		100	Y	FACU	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
50% of total cover: <u>50</u>		100 = Total Cover		20% of total cover: <u>20</u>	
Woody Vine Stratum	Plot size: <u>30 ft radius</u>				
1. <u>None</u>					
2. _____					
50% of total cover: _____		= Total Cover		20% of total cover: _____	

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

SOIL

Sampling Point SP-32**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		
0-16	10YR 4/4	100					Loam/Clayey	

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Dark Surface (S7)
☐ Stratified Layers (A5)	☐ Loamy Mucky Mineral (F1)
☐ 2 cm Muck (A10)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)
☐ Iron Monosulfide (A18)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ 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:**

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ☒	Depth (inches): _____
Water Table Present?	Yes _____	No ☒	Depth (inches): _____
Saturation Present?	Yes _____	No ☒	Depth (inches): _____
(includes capillary fringe)			

Wetland Hydrology Present? Yes _____ No ☒**Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:****Remarks:**

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/15/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-33

Investigator(s): STG, CAR Section, Township, Range: Private Ownership/Not PLS

Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): None (flat)

Slope (%): 0-2% Lat: 39.159963 Long: -90.989767 Datum: NAD83 (2011)

Soil Map Unit Name: Goss-Gasconade-Brussels complex, 9 to 70 percent slopes, very stony NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No 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 ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
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Remarks:

The sample point was taken in a forested floodplain. Climatic conditions were wetter than normal at the time of the delineation.

Wetland ID: N/A; Cowardin Class:

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size: <u>30 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>Juglans nigra</u></td><td><u>20</u></td><td><u>Y</u></td><td><u>FACU</u></td></tr><tr><td>2. <u>Platanus occidentalis</u></td><td><u>20</u></td><td><u>Y</u></td><td><u>FACW</u></td></tr><tr><td>3. <u>Ulmus rubra</u></td><td><u>15</u></td><td><u>Y</u></td><td><u>FAC</u></td></tr><tr><td>4. <u>Acer saccharum</u></td><td><u>10</u></td><td><u>N</u></td><td><u>FACU</u></td></tr><tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr></tbody></table> 65 = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u> Sapling/Shrub Stratum Plot size: <u>15 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>Lonicera maackii</u></td><td><u>50</u></td><td><u>Y</u></td><td><u>UPL</u></td></tr><tr><td>2. <u>Smilax tamnoides</u></td><td><u>20</u></td><td><u>Y</u></td><td><u>NA</u></td></tr><tr><td>3. <u>Celtis occidentalis</u></td><td><u>4</u></td><td><u>N</u></td><td><u>FAC</u></td></tr><tr><td>4. <u>Acer negundo</u></td><td><u>4</u></td><td><u>N</u></td><td><u>FAC</u></td></tr><tr><td>5. <u>Carpinus caroliniana</u></td><td><u>4</u></td><td><u>N</u></td><td><u>FAC</u></td></tr><tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr></tbody></table> 102 = Total Cover 50% of total cover: <u>51</u> 20% of total cover: <u>20.4</u> Herb Stratum Plot size: <u>5 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>Festuca subverticillata</u></td><td><u>15</u></td><td><u>Y</u></td><td><u>FACU</u></td></tr><tr><td>2. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>3. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>6. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>7. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>8. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>9. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>10. _____</td><td>_____</td><td>_____</td><td>_____</td></tr></tbody></table> 15 = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u> Woody Vine Stratum Plot size: <u>30 ft radius</u> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>Absolute % Cover</th><th>Dominant Species?</th><th>Indicator Status</th></tr></thead><tbody><tr><td>1. <u>None</u></td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>2. _____</td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr></tbody></table> _____ = Total Cover 50% of total cover: _____ 20% of total cover: _____		Absolute % Cover	Dominant Species?	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Indicator Status	1. <u>None</u>	_____	_____	_____	2. _____	_____	_____	_____	_____	_____	_____	_____	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>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>28.57%</u> (A/B) Prevalence Index worksheet: <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Total % Cover of:</th><th>Multiply by:</th></tr></thead><tbody><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></tbody></table> Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ <u>No</u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes ☐ No ☒	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)
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Remarks: (include photo numbers here or on a separate sheet.)

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

 Sampling Point: SP-33

<u>Tree Stratum</u>	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
65 = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
<u>Sapling/Shrub Stratum</u>				
6. <u>Rosa multiflora</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
102 = Total Cover 50% of total cover: <u>51</u> 20% of total cover: <u>20.4</u>				
<u>Herb Stratum</u>				
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
15 = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
<u>Wood Vine Stratum</u>				
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				

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

SOIL

Sampling Point SP-33**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		
0-16	10YR 3/2	100					Loam/Clayey	

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

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Dark Surface (S7)
☐ Stratified Layers (A5)	☐ Loamy Mucky Mineral (F1)
☐ 2 cm Muck (A10)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)
☐ Iron Monosulfide (A18)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ 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 X **Remarks:**

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ 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)			

Wetland Hydrology Present? Yes No X **Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:****Remarks:**

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Millcreek Solar Project City/County: Silex/Lincoln Sampling Date: 12/16/2025

Applicant/Owner: Ameren State: MO Sampling Point: SP-34

Investigator(s): STG, CAR Section, Township, Range: Private Ownership/Not PLS

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None (flat)

Slope (%): 0-2% Lat: 39.155074 Long: -90.979416 Datum: NAD83 (2011)

Soil Map Unit Name: Goss-Gasconade-Brussels complex, 9 to 70 percent slopes, very stony NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No 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 ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
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Remarks:

The sample point was taken in an upland herbaceous field adjacent to a stream. Climatic conditions were wetter than normal at the time of the delineation.

Wetland ID: N/A; Cowardin Class:

VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <u>30 ft radius</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>None</u>					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%</u> (A/B)
2. _____					
3. _____					
4. _____					
5. _____					
		= Total Cover			
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum Plot size: <u>15 ft radius</u>					
1. <u>None</u>					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 = _____
2. _____					
3. _____					
4. _____					
5. _____					
		= Total Cover			
50% of total cover: _____		20% of total cover: _____			
Herb Stratum Plot size: <u>5 ft radius</u>					
1. <u>Setaria pumila</u>		40	Y	FAC	Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Phleum pratense</u>		25	Y	FACU	
3. <u>Panicum dichotomiflorum</u>		10	N	FACW	
4. <u>Poa pratensis</u>		10	N	FAC	
5. <u>Ambrosia trifida</u>		8	N	FAC	
6. <u>Xanthium strumarum</u>		5	N	FAC	
7. _____					
8. _____					
9. _____					
10. _____					
		98	= Total Cover		
50% of total cover: <u>49</u>		20% of total cover: <u>19.6</u>			
Woody Vine Stratum Plot size: <u>30 ft radius</u>					
1. <u>None</u>					Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____					
		= Total Cover			
50% of total cover: _____		20% of total cover: _____			

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

SOIL

Sampling Point SP-34

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		
0-16	10YR 3/2	100					Loam/Clayey	

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

Hydric Soil Indicators:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Dark Surface (S7)
☐ Stratified Layers (A5)	☐ Loamy Mucky Mineral (F1)
☐ 2 cm Muck (A10)	☐ Loamy Gleyed Matrix (F2)
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☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ☒	Depth (inches): _____
Water Table Present?	Yes _____	No ☒	Depth (inches): _____
Saturation Present?	Yes _____	No ☒	Depth (inches): _____
(includes capillary fringe)			

Wetland Hydrology Present? Yes _____ No ☒

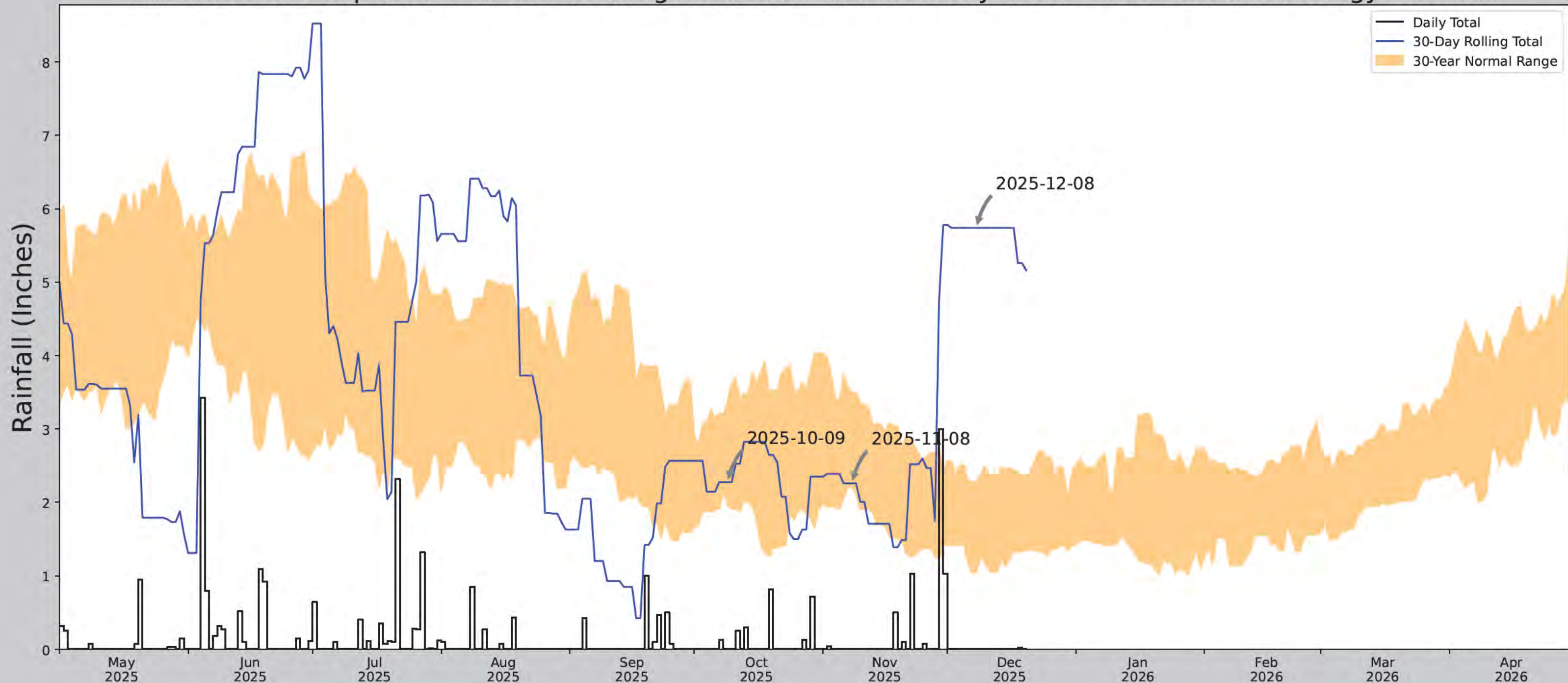
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX D

ANTECEDENT PRECIPITATION TOOL ANALYSIS

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



Coordinates	39.16763, -90.97105
Observation Date	2025-12-08
Elevation (ft)	841.603
Drought Index (PDSI)	Mild drought (2025-11)
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
2025-12-08	1.043701	2.268898	5.740158	Wet	3	3	9
2025-11-08	2.209055	3.497244	2.259843	Normal	2	2	4
2025-10-09	1.958268	3.366536	2.275591	Normal	2	1	2
Result							Wetter than Normal - 15

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

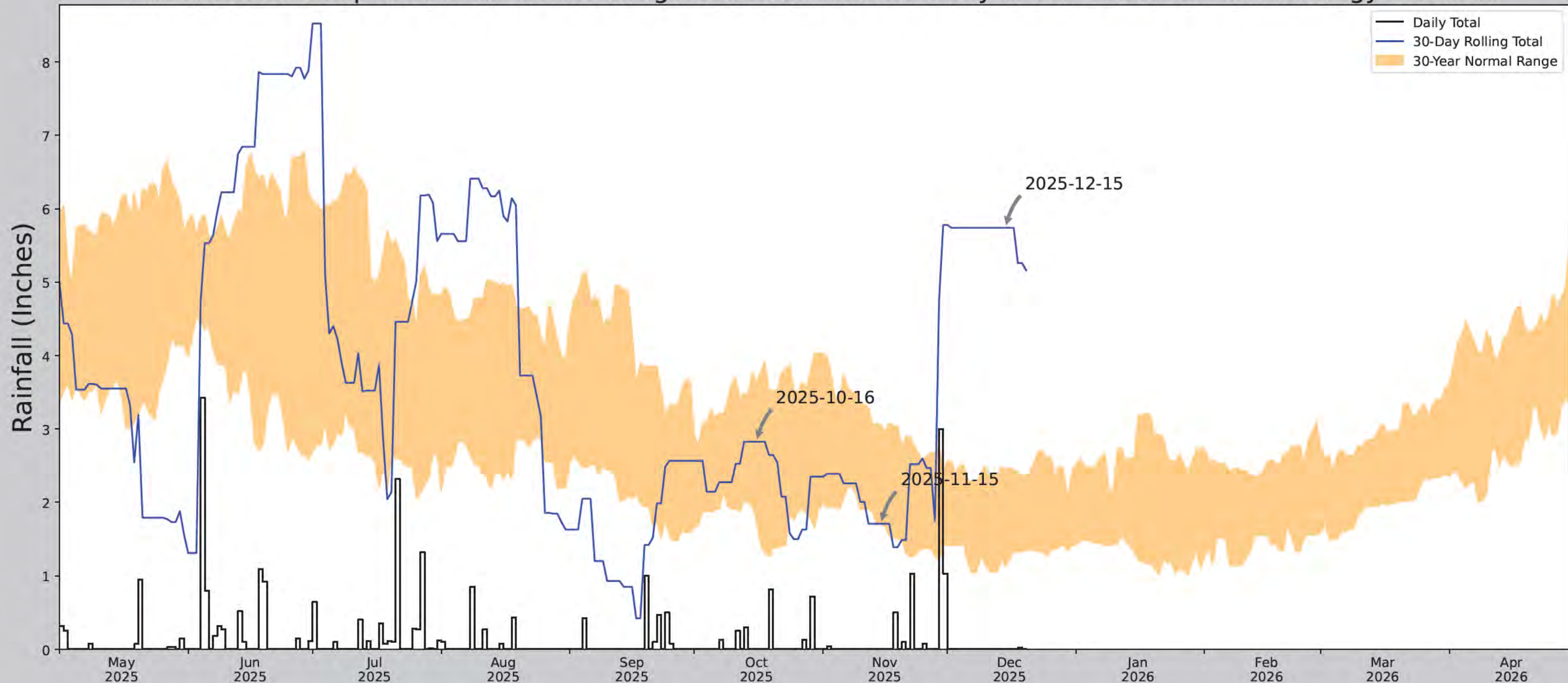


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Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BOWLING GREEN 1 E	39.3444, -91.1711	895.013	16.24	53.41	8.175	10247	86
BOWLING GREEN 0.6 SE	39.3326, -91.1884	895.997	1.233	0.984	0.556	207	1
LOUISIANA	39.4517, -91.0464	470.144	9.965	424.869	8.718	852	0
VANDALIA	39.3075, -91.4925	764.108	17.366	130.905	10.088	45	3
SILEX 3E	39.1328, -91.0047	685.039	17.119	209.974	11.298	1	0
CLARKSVILLE L&D 24	39.3736, -90.9061	459.974	14.3	435.039	12.656	1	0

Attachment B

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



Coordinates	39.16763, -90.97105
Observation Date	2025-12-15
Elevation (ft)	841.603
Drought Index (PDSI)	Mild drought (2025-11)
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
2025-12-15	1.125984	2.456693	5.740158	Wet	3	3	9
2025-11-15	1.704724	3.056299	1.708661	Normal	2	2	4
2025-10-16	1.763386	3.629921	2.826772	Normal	2	1	2
Result							Wetter than Normal - 15

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

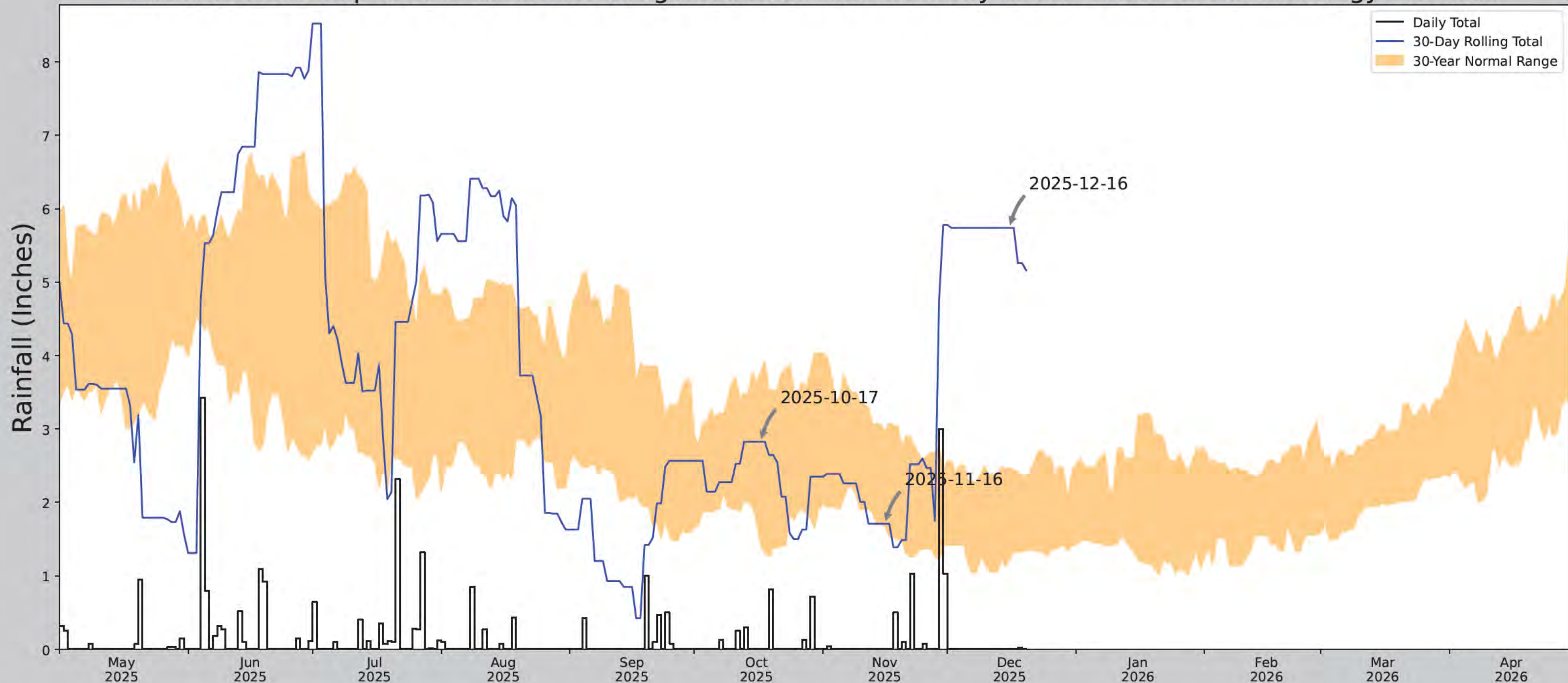


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Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BOWLING GREEN 1 E	39.3444, -91.1711	895.013	16.24	53.41	8.175	10247	86
BOWLING GREEN 0.6 SE	39.3326, -91.1884	895.997	1.233	0.984	0.556	207	1
LOUISIANA	39.4517, -91.0464	470.144	9.965	424.869	8.718	852	0
VANDALIA	39.3075, -91.4925	764.108	17.366	130.905	10.088	45	3
SILEX 3E	39.1328, -91.0047	685.039	17.119	209.974	11.298	1	0
CLARKSVILLE L&D 24	39.3736, -90.9061	459.974	14.3	435.039	12.656	1	0

Attachment B

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



Coordinates	39.16763, -90.97105
Observation Date	2025-12-16
Elevation (ft)	841.603
Drought Index (PDSI)	Mild drought (2025-11)
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
2025-12-16	1.229921	2.470473	5.740158	Wet	3	3	9
2025-11-16	1.677165	2.962205	1.708661	Normal	2	2	4
2025-10-17	1.408661	3.770473	2.826772	Normal	2	1	2
Result							Wetter than Normal - 15

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

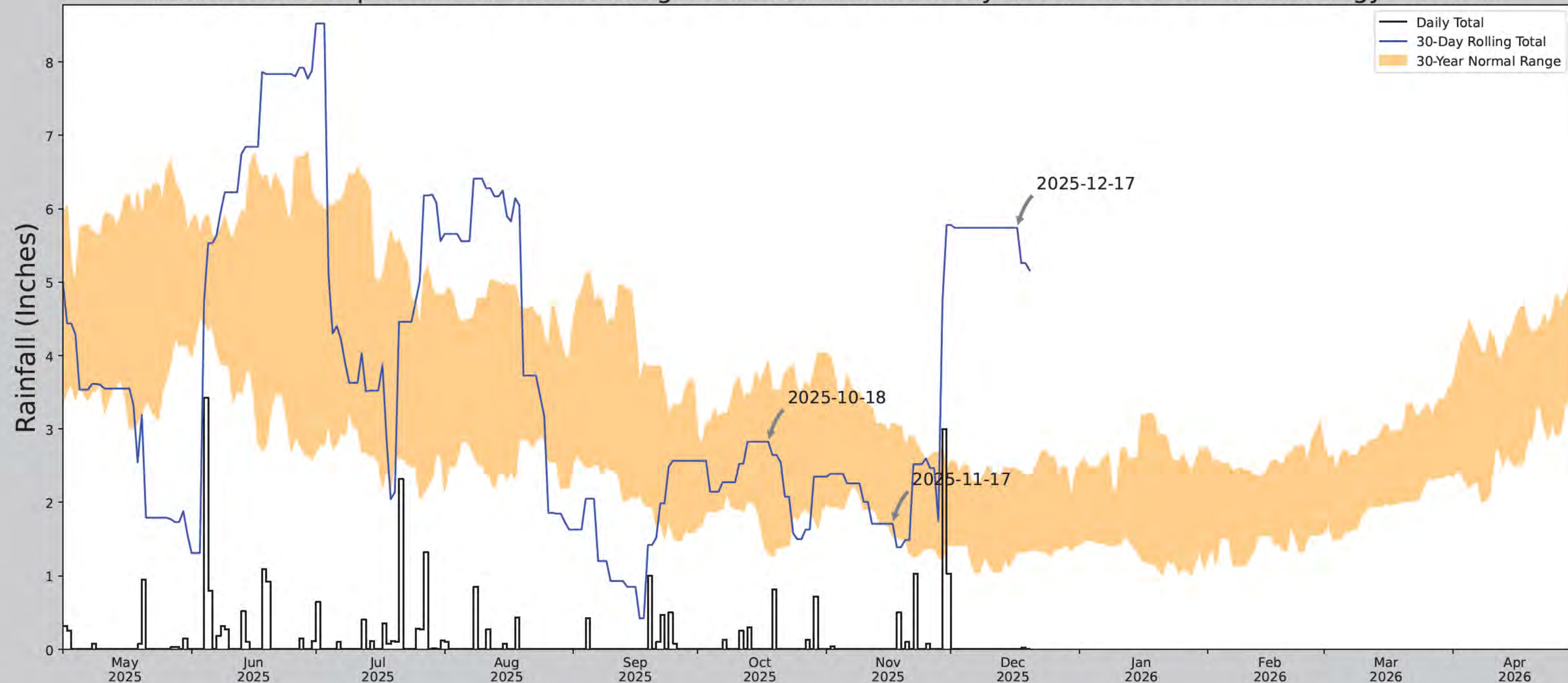


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Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BOWLING GREEN 1 E	39.3444, -91.1711	895.013	16.24	53.41	8.175	10247	86
BOWLING GREEN 0.6 SE	39.3326, -91.1884	895.997	1.233	0.984	0.556	207	1
LOUISIANA	39.4517, -91.0464	470.144	9.965	424.869	8.718	852	0
VANDALIA	39.3075, -91.4925	764.108	17.366	130.905	10.088	45	3
SILEX 3E	39.1328, -91.0047	685.039	17.119	209.974	11.298	1	0
CLARKSVILLE L&D 24	39.3736, -90.9061	459.974	14.3	435.039	12.656	1	0

Attachment B

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



Coordinates	39.16763, -90.97105
Observation Date	2025-12-17
Elevation (ft)	841.603
Drought Index (PDSI)	Mild drought (2025-11)
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
2025-12-17	1.325984	2.444488	5.740158	Wet	3	3	9
2025-11-17	1.538189	3.082677	1.708661	Normal	2	2	4
2025-10-18	1.32126	3.922835	2.826772	Normal	2	1	2
Result							Wetter than Normal - 15

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

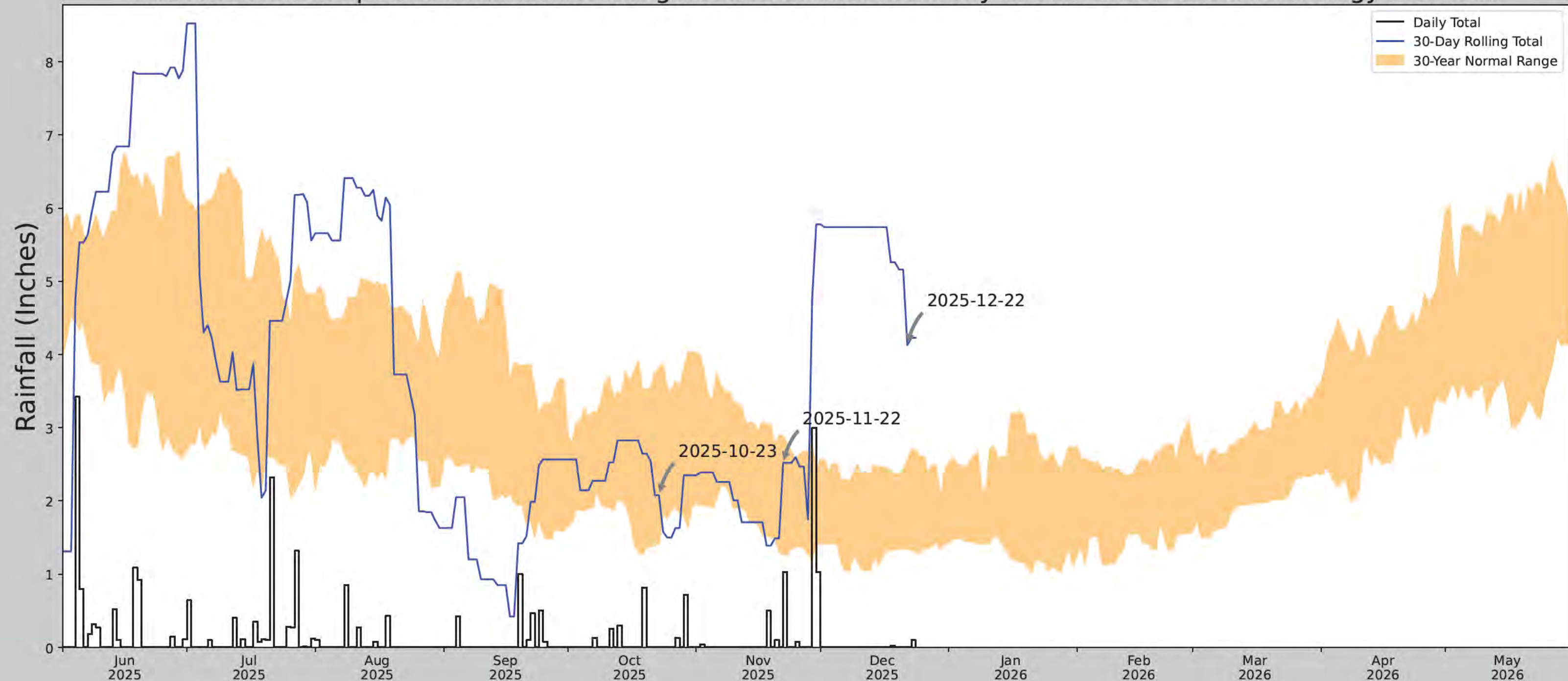


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Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BOWLING GREEN 1 E	39.3444, -91.1711	895.013	16.24	53.41	8.175	10247	86
BOWLING GREEN 0.6 SE	39.3326, -91.1884	895.997	1.233	0.984	0.556	207	1
LOUISIANA	39.4517, -91.0464	470.144	9.965	424.869	8.718	852	0
VANDALIA	39.3075, -91.4925	764.108	17.366	130.905	10.088	45	3
SILEX 3E	39.1328, -91.0047	685.039	17.119	209.974	11.298	1	0
CLARKSVILLE L&D 24	39.3736, -90.9061	459.974	14.3	435.039	12.656	1	0

Attachment B

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



Coordinates	39.16763, -90.97105
Observation Date	2025-12-22
Elevation (ft)	841.603
Drought Index (PDSI)	Mild drought (2025-11)
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
2025-12-22	1.337795	2.554724	4.129921	Wet	3	3	9
2025-11-22	1.262205	2.88937	2.519685	Normal	2	2	4
2025-10-23	1.408268	3.812205	2.07874	Normal	2	1	2
Result							Wetter than Normal - 15

Figures and tables made by the
Antecedent Precipitation Tool
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U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BOWLING GREEN 1 E	39.3444, -91.1711	895.013	16.24	53.41	8.175	10247	86
BOWLING GREEN 0.6 SE	39.3326, -91.1884	895.997	1.233	0.984	0.556	207	1
LOUISIANA	39.4517, -91.0464	470.144	9.965	424.869	8.718	852	0
VANDALIA	39.3075, -91.4925	764.108	17.366	130.905	10.088	45	3
SILEX 3E	39.1328, -91.0047	685.039	17.119	209.974	11.298	1	0
CLARKSVILLE L&D 24	39.3736, -90.9061	459.974	14.3	435.039	12.656	1	0

Attachment B