

# Construction Notice for the Wolf Creek – Corner 138 kV Transmission Line Cut-In Project



An **AEP** Company

PUCO Case No. 25-0700-EL-BNR

Submitted to:  
The Ohio Power Siting Board  
Pursuant to Ohio Administrative Code  
Section 4906-6-05

Submitted by:  
Ohio Power Company

July 14, 2025

# CONSTRUCTION NOTICE FOR THE WOLF CREEK - CORNER 138 KV TRANSMISSION LINE CUT-IN PROJECT

## Construction Notice

### Wolf Creek-Corner 138 kV Transmission Line Cut-In Project

#### 4906-6-05

Ohio Power Company (the “Company”) is providing the following information to the Ohio Power Siting Board (OPSB) in accordance with the accelerated application requirements of Ohio Administrative Code Section 4906-6-05.

#### 4906-6-05(B) General Information

##### B(1) Project Description

**Provide the name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a letter of notification or construction notice application.**

The Company proposes the Wolf Creek-Corner 138 kV Transmission Line Cut-In Project (the “Project”) in Watertown Township, Washington County, Ohio. The Project involves cutting into the existing Wolf Creek-Corner 138 kV Transmission Line, rebuilding approximately 0.8 mile, to install the new West Watertown stepdown substation. The existing wooden H-frames will be replaced with a combination of double circuit steel monopoles and H-frames structures within the existing 100-foot-wide right-of-way (“ROW”). The location of the proposed transmission line (“Project Area”) is shown in **Exhibit 1** and **Exhibit 2** in **Appendix A**.

The Project meets the requirements for a Construction Notice (CN) as defined by Item 2(a) of Appendix A to Ohio Administrative Code Section 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

*(2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:*

*(a) Two miles or less.*

The Project has been assigned PUCO Case No. 25-0700-EL-BNR.

##### B(2) Statement of Need

**If the proposed project is an electric power transmission line or gas pipeline, the applicant provide a statement explaining the need for the proposed facility.**

Washington Electric Cooperative’s (“WEC”) existing Watertown Station is currently served from a 23 kV radial line. The existing 23 kV system is in poor condition, is a non-standard design voltage, and has resulted in numerous service interruptions to the customer, resulting in approximately 3,780,000

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Customer Minutes of Interruption between 2012-2021 as reported by Buckeye Power in their request to AEP.

To address the customer's concerns, WEC requested a new 138 kV delivery point. To convert the Watertown delivery point to 138 kV, the Company plans to build a greenfield 138/69 kV stepdown station and a new 138 kV transmission line to the WEC delivery point. The Company proposes building the 138/69kV stepdown West Watertown Station adjacent to the Wolf Creek-Corner 138 kV transmission line, and a new 4.1-mile 138 kV transmission line (Case No. 24-0111-EL-BLN approved June 23<sup>rd</sup>, 2025) to WEC's delivery point. This will provide a new 138 kV delivery to the co-op and allow the Company to address separate asset renewal issues in the nearby 69 kV network. The cut-in work to the existing Wolf Creek-Corner 138 kV Transmission Line is the subject of this Application.

Failure to move forward with the proposed Project will result in continued customer reliability concerns related to the existing 23 kV service.

The need and solution for the Project were presented and reviewed with stakeholders at the July 2019 and June 2022 PJM SRRTEP meetings, respectively. The Project was subsequently assigned PJM supplemental number s2791.2. The Project was included in the Company's 2024 Long Term Forecast Report on Page 106 (see **Appendix B**).

### **B(3) Project Location**

**Provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.**

The Project is in Washington County, Ohio. **Exhibit 1** in **Appendix A** shows the Project area on a United States Geological Survey (USGS) Watertown and Fleming topographic quadrangle map in relation to the Wolf Creek - Corner 138 kV Transmission Line and the West Watertown Station. **Exhibit 2** in **Appendix A** identifies the Project on 2023 aerial imagery.

### **B(4) Alternatives Considered**

**Describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility, including but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.**

Based on desktop and field examinations, the Company concluded that construction of the Project on the existing alignment was the best and most reasonable route. The Project route is short, can be constructed efficiently, and uses existing ROW to minimize viewshed impacts. As such, abandoning the existing ROW for a new greenfield route is neither practical nor necessary.

Further, the Company confirmed that extended outages could be obtained in order to rebuild the existing line along the existing centerline. Additionally, the design provides for proper clearances within the existing ROW. No additional or supplemental easements will be necessary for this Project. Ecological and cultural surveys were conducted along the existing centerline, and it was determined that no cultural or ecological features would be permanently impacted by the Project.

**B(5) Public Information Program**

**Describe its public information program to inform affected property owners and residents of the nature of the project and the proposed timeframe for project construction and restoration activities.**

The Project will be located entirely within Company owned property, with no additional property owners or tenants affected. The Company maintains a website (<http://aeptransmission.com/ohio/>) on which an electronic copy of this CN is available. An electronic copy of the CN will be served to the public library in each political subdivision affected by this Project.

**B(6) Construction Schedule**

**Provide an anticipated construction schedule and proposed in-service date of the project.**

Construction of the Project is anticipated to commence in October 2025 with a proposed in-service date of April 2026.

**B(7) Area Map**

**Provide a map of at least 1:24,000 scale clearly depicting the facility and proposed limits of disturbance with clearly marked streets, roads, and highways, and an aerial image.**

**Exhibit 1** in **Appendix A** provides the proposed Project area on a map of 1:24,000-scale (1-inch equals 2,000 feet) on the Watertown and Fleming USGS 7.5-minute topographic map of the Project area. **Exhibit 2** in **Appendix A** shows the Project area on 2020 ESRI World Imagery at a scale of 1:6,000 scale (1-inch equals 500 feet) and shows the alignment of the proposed transmission line on aerial imagery with clearly marked streets, roads, and highways.

**B(8) Property Agreements**

**Provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.**

The Project will be constructed within existing ROW and will not impact any new parcels. A list of properties required for the Project are provided below in Table 1.



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**Table 1. Property Agreements**

<b>Property Parcel Number</b>	<b>Agreement Type</b>	<b>Easement Agreement/ Option Obtained</b>
310053592001	Ohio Power Company Owned	Not Required
310053660000	Easement Supplemental	Yes
310054014002	Easement Supplemental	No
310053592000	Existing Rights	Yes

The form easements in **Appendix C** represents the easement rights the Company would seek if condemnation proceedings were necessary to construct, operate, and maintain these facilities.

### **B(9) Technical Features**

**Describe the following information regarding the technical features of the project:**

**B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.**

Voltage: 138 kV  
Conductors: 3x (1) 795 ACSR "Drake"  
Static Wire: 1x (1) 0.646" 144-Ct OPGW & 1x(1) 7#8 AW Shield Wire  
Insulators: Polymer  
ROW Width: 100 feet  
Structure Type: (1) Custom Steel 2-Pole DE, Double Circuit, w/ Anchor Bolt Assembly on Drilled Pier Foundation  
(1) Custom Steel 2-Pole DE, Double Circuit, w/ Jumper Posts, w/ Anchor Bolt Assembly on Drilled Pier Foundation  
(2) Pre-Engineered Steel Monopole Tangent, Double Circuit, Braced Posts, Direct Embed Foundation

### **B(9)(b) Electric and Magnetic Fields**

**For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.**

No occupied residences or institutions are located within 100 feet of structures to the Project.

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### **B(9)(c) Project Costs**

**The estimated capital cost of the project.**

The cost estimate for the Project, which is comprised of applicable tangible and capital costs, is approximately \$650,000 using a Class 4 estimate. Pursuant to the PJM Open Access Transmission Tariff ("OATT"), the cost for this Project will be recovered in the Company's Federal Energy Regulatory Commission ("FERC") formula rate (Attachment H-14 to the PJM OATT) and allocated to the AEP Zone.

### **B(10) Social and Economic Impacts**

**The applicant shall describe the social and ecological impacts of the project.**

#### **B(10)(a) Land Use**

**Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.**

The Project is in Watertown Township, Washington County, Ohio. Land use observed within the Project area is primarily agricultural with low density residential and commercial land use. Large residential lots are primarily along State Route 676, northeast and northwest of the Project. As the Project is going to be constructed within existing ROW, minimal tree clearing is anticipated. There are no schools, hospitals, places of worship, or airports within 1,000 feet of the Project area.

#### **B(10)(b) Agricultural Land Information**

**Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.**

The Project crosses approximately 9.7 acres of agricultural land. The Washington County Auditor's Office was contacted on May 20<sup>th</sup>, received May 23<sup>rd</sup>, 2025. The Project Area is characterized by agricultural land use with low density residential land uses dispersed throughout. The dominant agricultural use appears to be row crops (i.e. soy beans and corn). Large, open agricultural fields are present in the Project Area along Reed Road.

Based on data received from the Washington County Auditor's office on May 23, 2025, The project crosses 3.14 acres of agricultural district land which currently have an AEP Ohio easement for an existing transmission line.

#### **B(10)(c) Archaeological and Cultural Resources**

**Provide a description of the applicant's investigation concerning the presence or absence of significant archeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

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A Phase I Archaeological Investigation and a History Architecture Investigation was conducted in April 2025 and provided to the Ohio State Historic Preservation Office (SHPO) for consultation. These investigations did not result in the identification of archaeological deposits or significant architectural resources within the Project's area of potential effect. There were no historical/architectural resources identified as eligible or potentially eligible for inclusion on the National Register of Historic Places (NRHP). The SHPO responded on May 20, 2025, and agreed that the Project as proposed will have no effect on historic properties. The SHPO coordination letter is provided for the completed survey areas in **Appendix D**.

### **B(10)(d) Local, State, and Federal Agency Correspondence**

**Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.**

The Company's consultant conducted a stream and wetland delineation survey within the Project area between structures 60 and 62 and identified two wetlands and one stream. No impacts to streams or ponds are anticipated. However, since access roads have not been finalized, wetland impacts have not yet been determined. If wetland impacts are required, coordination with the U.S. Army Corps of Engineering and/or the Ohio Environmental Protection Agency (OEPA) may be required for this Project. Additional surveys were completed in April 2025 to cover the ROW between structures 58 to 60 and 61 to 63. No additional streams or wetlands were identified.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Number 39167C0225F (effective 2014-04-16), the Project does not cross a 100-year floodplain. As such, there will be no need for the company to obtain a floodplain permit from the Washington County Floodplain Administrator for the construction of any structures within these areas.

A summary of anticipated permits and authorizations for the Project is provided in Table 2 below. There are no other known local, state, or federal requirements that must be met prior to commencement of the Project.

**Table 2. Anticipated Permits**

<b>Permit/Authorization/Coordination</b>	<b>Agency</b>	<b>Date</b>
Storm Water Pollution Prevention Plan/Notice of Intent for authorization of construction storm water discharges under General Permit OHC00006	Ohio Environmental Protection Agency	Expected June 2025
	Washington County	
Road Use Maintenance Agreement	Washington County	Expected June 2025
Clean Water Act Section 404/401	United States Army Corps of Engineers	Anticipated based on wetland impacts
	Ohio Environmental Protection Agency	

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Archaeology/Architectural	Ohio Historic Preservation Office	Coordination complete 5/20/2025, no additional work required
Threatened and Endangered Species	United States Fish and Wildlife Service	Consultation complete 5/3/2025. Additional coordination to be provided to the OPSB.
Threatened and Endangered Species	Ohio Department of Natural Resources	Consultation complete 5/20/2025. Additional coordination to be provided to the OPSB.

**B(10)(e) Threatened, Endangered, and Rare Species**

**Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

Coordination letters were sent to U.S. Fish and Wildlife Service (USFWS) and Ohio Department of Natural Resources-Division of Wildlife (ODNR-DOW). The USFWS response was received on March 3, 2025, and ODNR-DOW's response was received on March 20, 2025. Copies of the agencies' correspondence letters to date are provided in **Appendix D**.

According to the ODNR-DOW response letter, the Natural Heritage Database does not have record of any state or federally listed plants or animals within one mile of the Project. **Appendix E** lists the federal and state threatened or endangered species in the Project area.

Based on coordination with the USFWS, it was confirmed that the Project area lies within the range of two federally listed species including Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*). The USFWS anticipates that no tree clearing will occur, however, if clearing of trees  $\geq 3$  inches diameter breast height (dbh) cannot be avoided, the USFWS recommends removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. If tree clearing must occur outside of October 1 and March 31, additional coordination will be completed with the USFWS and the ODNR. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Because no tree clearing is anticipated, no impacts to the above listed species are anticipated.

Based on the consultation response from ODNR-DOW, the Project area is within range of four state-listed bat species including Indiana bat, northern long-eared bat, little brown bat (*Myotis lucifugus*), and tricolored bat (*Perimyotis subflavus*). ODNR-DOW recommends implementing seasonal tree cutting from October 1 to March 31 and conserving trees with loose, shaggy bark; with crevices, holes, or cavities; or with a dbh greater than or equal to 20 inches. However, no tree clearing is required for the Project, therefore, no impacts to the above listed bat species are anticipated.

ODNR-DOW also stated that the Project is within range of one state threatened fish species, the lake chubsucker (*Erimyzon sucetta*). The ODNR-DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to the species' habitat. If no in-water work is required,

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the ODNR-DOW does not anticipate impacts to the lake chubsucker or other aquatic species. However, no in-water work is required for the Project and no impacts to the above listed species.

The ODNR-DOW also indicated that one state endangered bird species, the northern harrier (*Circus hudsonis*), is located within range of the Project. The northern harrier breeds and nests in large marshes and grasslands. Female northern harriers build their nests on the ground, often on top of a mound. The ODNR-DOW recommends avoiding construction during the species' nesting period of April 15 through July 31 to minimize impacts to the species' nesting habitat. A professional survey was conducted, and due to disturbance from consistent farming as well as proximity to roads and residential areas, no harrier nesting habitat is considered to be within the Project area, and thus no impacts are anticipated.

### **B(10)(f) Areas of Ecological Concern**

**Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

As stated in Section B(10)(e), a copy of the correspondence letters received from the USFWS and ODNR-DOW are provided in **Appendix D**. USFWS indicated no impacts to proposed or designated critical habitats.

The Company's consultant conducted a wetland and stream delineation survey in the Project study area and prepared an Ecological Survey Report, which is provided in **Appendix F**. The survey of the Project area identified two wetlands, one stream, and one pond. At the time of filing, impacts to wetlands are still being determined. Streams will either be avoided by use of a bridge (no work below the ordinary high water mark) or establishing an exclusion area around the stream, and the wetlands and pond will be avoided.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Number 39167C0225F (effective 2014-04-16), the Project does not cross a 100-year.

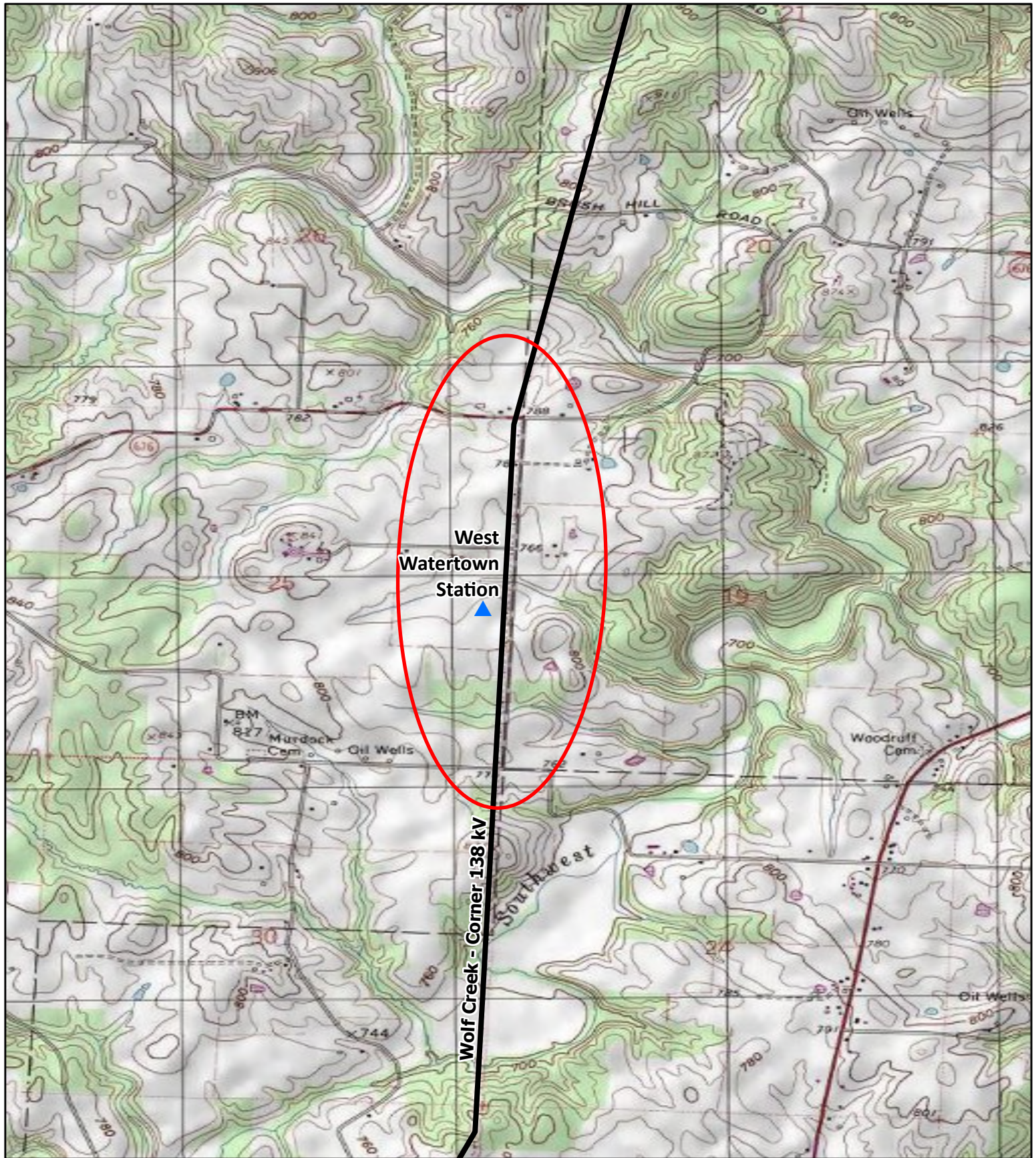
### **B(10)(g) Unusual Conditions**

**Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.**

To the best of the Company's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.




## **Appendix A Project Maps**





West  
Watertown  
Station

Wolf Creek - Corner 138 kV

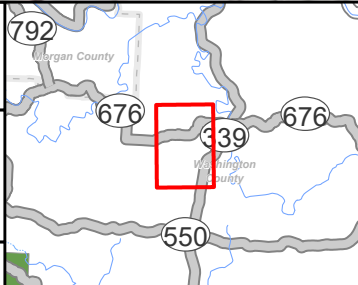
-  Planned Substation
-  Existing Transmission Line
-  Project Area

Base Map: Source:  
USGS Topographic

Coordinate System:  
State Plane Ohio South  
FIPS 3402  
Datum: NAD 1983  
Scale: 1:24,000



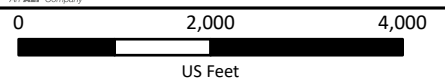
May 21, 2025



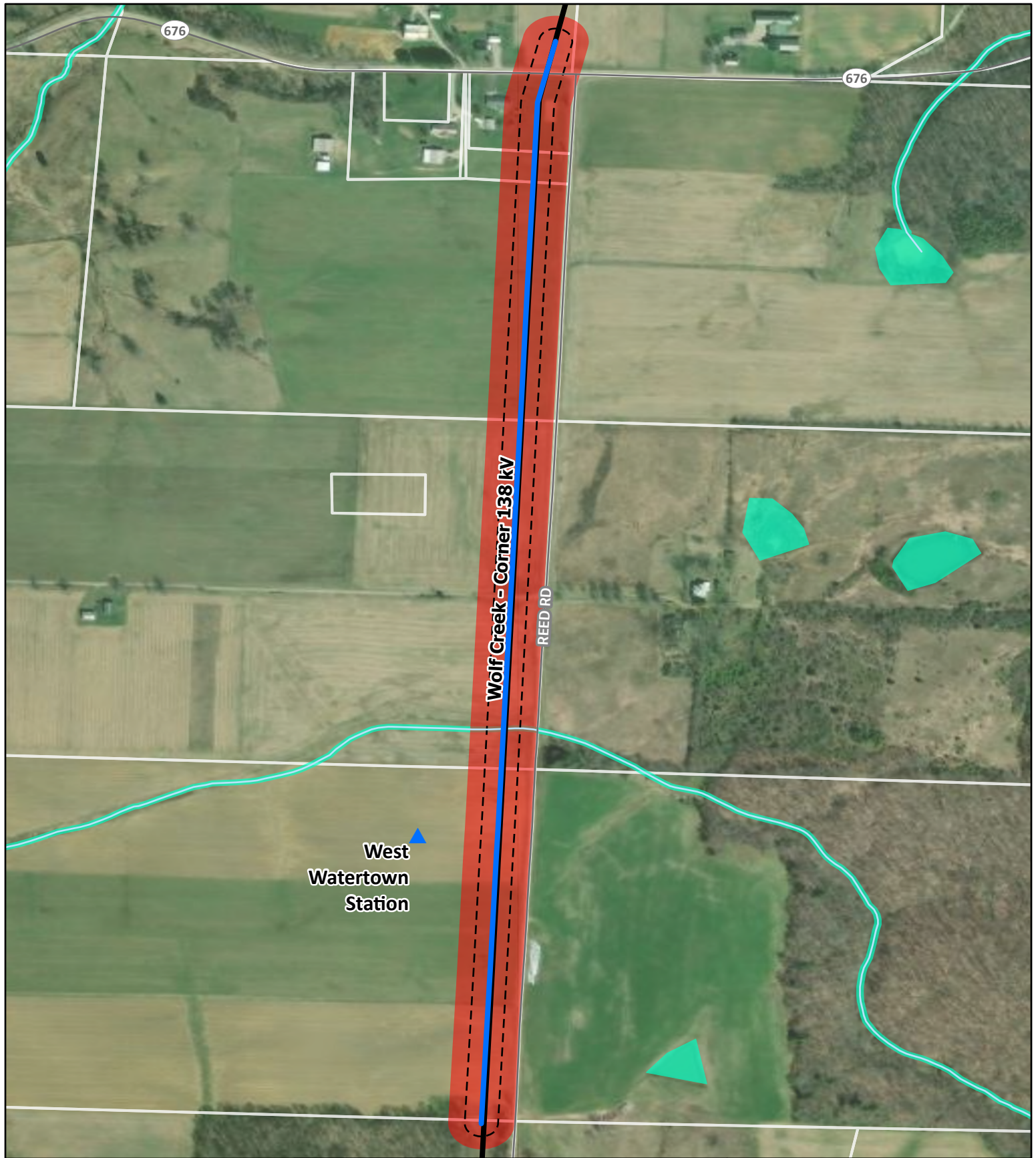
## Exhibit 1 Topographic Overview



Wolf Creek - Corner 138 kV  
Transmission Line Cut In Project  
Washington County, OH







<ul style="list-style-type: none"> <li> Planned Substation</li> <li> Wolf Creek - Corner 138 kV Transmission Line</li> <li> Project 100' Right of Way</li> <li> Project 200' Route Corridor</li> <li> Existing Transmission Line</li> <li> Roadway</li> <li> NWI Wetlands</li> <li> NHD Flowline</li> <li> Parcel Boundary</li> </ul>	<p>Base Map: Source: ESRI World Imagery</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 Datum: NAD 1983 Scale: 1:6,000</p> <p>May 21, 2025</p>		<p><b>Exhibit 2</b> <b>Aerial Overview</b></p> <p><b>Wolf Creek- Corner 138 kV Transmission Line Cut In Project Washington County, OH</b></p> <p> An AEP Company</p> <p>0 500 1,000 US Feet</p>
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## **Appendix B Long Term Forecast Report and PJM Solution Submittal**

PUCO Form FE-T9:  
Specifications of Planned Electric Transmission Lines

12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to serve new customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Scherers Switch - Cologix 138 kV (s2789 DP21C0023)
2	POINTS OF ORIGIN AND TERMINATION	Scherers Switch - Cologix INTERMEDIATE STATION - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~0.24 miles / 100 ft / 1 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	\$0.795 M
8	PLANNED SUBSTATION:	Scherers Switch
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Service to new customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to serve new customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Watertown (WEC) - West Watertown 138 kV (s2791 TP2020022)
2	POINTS OF ORIGIN AND TERMINATION	Watertown (WEC) - West Watertown INTERMEDIATE STATION - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~4.3 miles / 100 ft / 1 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	\$9.32M
8	PLANNED SUBSTATION:	West Watertown
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Service to customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to serve customer with new line
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	West Watertown - Wolf Creek 138 kV (s2791 TP2020022)
2	POINTS OF ORIGIN AND TERMINATION	West Watertown - Wolf Creek INTERMEDIATE STATION - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~4.8 miles / 100 ft / 1 circuit (~0.1 miles of line work)
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	\$0.275 M
8	PLANNED SUBSTATION:	West Watertown
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Service to new customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to serve new customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Corner - West Watertown 138 kV (s2791 TP2020022)
2	POINTS OF ORIGIN AND TERMINATION	Corner - West Watertown INTERMEDIATE STATION - Layman
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~15.7 miles / 100 ft / 1 circuit (~0.1 miles of line work)
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	\$0.275 M
8	PLANNED SUBSTATION:	West Watertown
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Service to new customer



**Need Number:** AEP-2019-OH045

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

**Previously Presented:**

Solutions Meeting 06/15/2022

Need Meeting 07/24/2019

**Project Driver:**

Equipment Condition, Operational Flexibility, and Customer Service

**Specific Assumption Reference:**

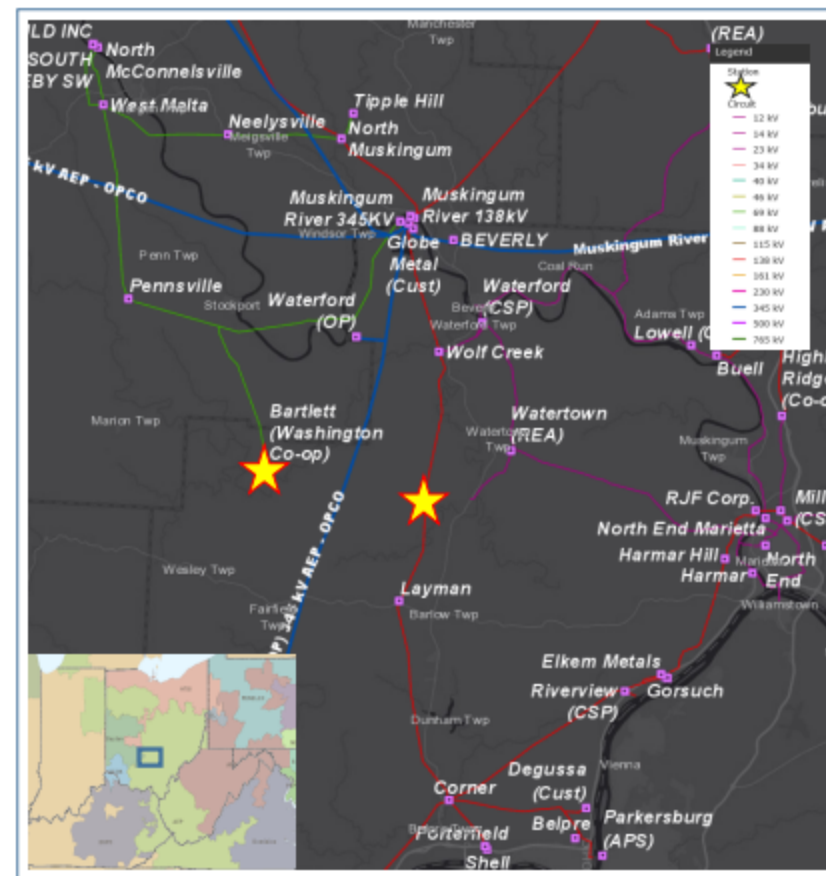
AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12) & AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

**Problem Statement:**

**Customer Service:**

- Buckeye Power, on behalf of Washington Electric Cooperative, has requested transmission service in western Washington County, Ohio.
- Washington Electric Cooperative customers are currently connected to radial 23 kV and 12 kV AEP Ohio distribution lines in the area.
- The delivery points connected to the 23 kV system have consistently been identified as having poor reliability by Buckeye.
- Washington Electric Cooperative (WEC) has reported approximately 3,780,000 customer-outage minutes (CMI) over a ten year period (2012-2021).
- WEC's Bartlett delivery, which reported a 1,893,000 CMI between 2012-2021, is currently served via a 5 mile radial extension from a manual switch on the Muskingum River – South Rokeby 69 kV circuit.

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio





**Need Number:** AEP-2021-OH011

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

**Previously Presented:**

Solutions Meeting 06/15/2022

Need Meeting 03/19/2021

**Problem Statement**

**Equipment Condition:**

Line Name: Muskingum – South Rokeby 69kV

Original Install Date (Age): 1965

Length of Line: ~21.3 mi

Total structure count: 164

Original Line Construction Type: Wood

Conductor Type: 4/0 ACSR 6/1, 336,400 CM ACSR 18/1, and 336,400 CM ACSR 30/7 Momentary/Permanent Outages and Duration: 10 Momentary and 2 Permanent Outages

CMI: 756,000 (past five years)

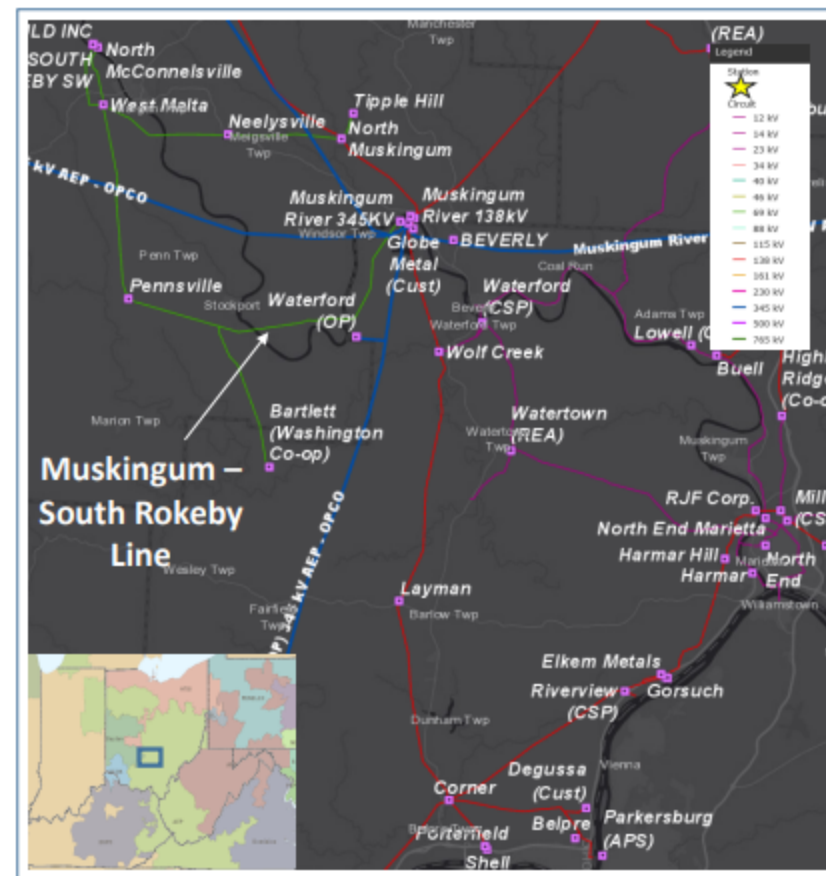
Line conditions: 48 structures with at least one open condition, 29% of the structures on this circuit. 45 structure related open conditions impacting wooden poles, crossarms, braces, and filler blocks including rot, bowing, woodpecker holes, insect damage, cracked, split, and rot top. 12 open conditions related to conductor issues including broken strands. 12 hardware/shielding issues including open conditions related to burnt, broken, or chipped insulators.

Structure Age: 72% 1960's, 15% 1970, 13% 1980's or newer

Other: The line shielding angle does not meet AEP's current shielding angle requirements. Line does not meet current NESC Grade B loading criteria or AEP's current structural strength requirements.

Washington Co-op's Bartlett Station is served radially from this line (~ 5.09 miles) with limited sectionalizing ability.

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio





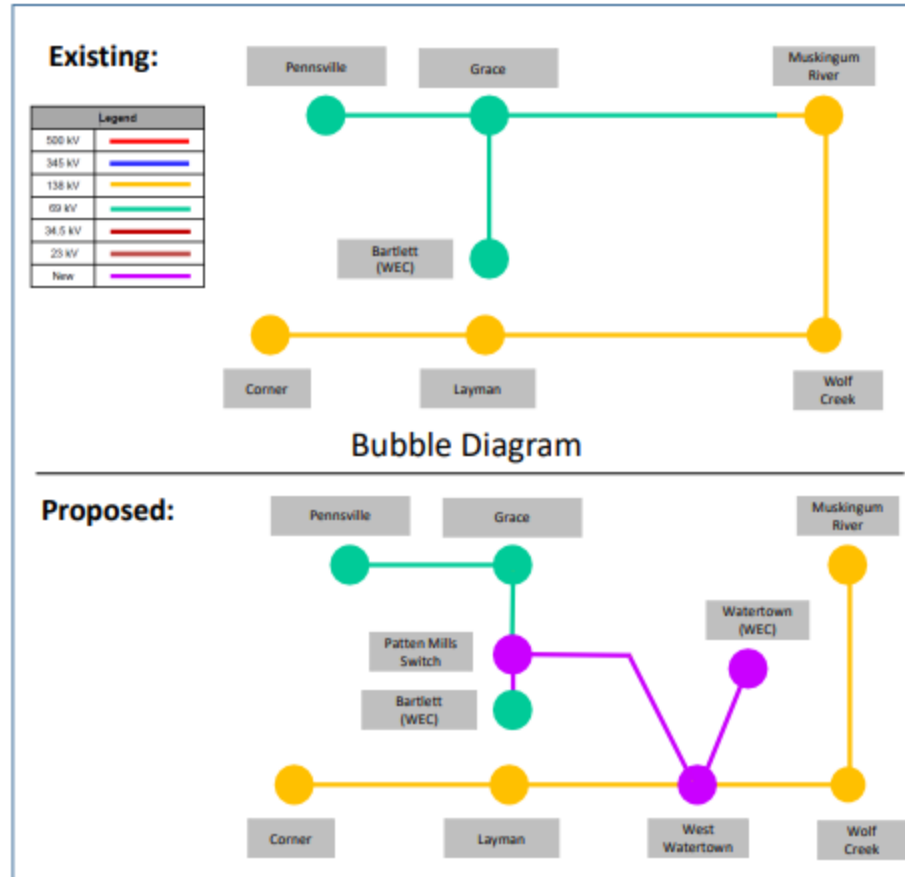
**Need Number:** AEP-2019-OH045 & AEP-2021-OH011

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

**Solution:**

- **West Watertown Station, 138 kV:** Construct a greenfield 138/69 kV West Watertown station off the existing Corner – Wolf Creek 138 kV circuit. Install four-138 kV 3000 A 40 kA breakers configured in a ring arrangement. Install 90 MVA 138/69/13.09 kV transformer along with a 3000A 40 kA 69 kV low side breaker towards WEC's Bartlett delivery. **Estimated Cost: \$8.8M (\$2791.1)**
- **Wolf Creek – Corner 138 kV Line cut-in:** Cut-in on the line to install the new West Watertown station. **Estimated Cost: \$0.55M (\$2791.2)**
- **West Watertown – Watertown (WEC) 138 kV circuit:** Construct approximately 4.3 miles of single circuit 138 kV line between the newly proposed West Watertown station and WEC's new 138 kV delivery at Watertown. **Estimated Cost: \$9.32M (\$2791.3)**
- **West Watertown – Patten Mills 69 kV circuit:** Construct approximately 5.8 miles of single circuit 69 kV line between the newly proposed West Watertown station and a proposed phase over phase switch (Patten Mills Switch) near WEC's delivery at Bartlett. **Estimated Cost: \$11.81M (\$2791.4)**
- **Patten Mills Switch, 69 kV:** Install a new 69 kV 2000A phase over phase (Patten Mills switch) to serve the Bartlett delivery point. **Estimated Cost: \$0.9M (\$2791.5)**
- **South Stockport - Washington Co-op 69 kV Line cut-in:** Cut-in on the line to install the new Patten Mills Switch. **Estimated Cost: \$0.65M. (\$2791.6)**
- **Muskingum River - South Rokeby 69 kV Line Removal:** Retire ~9 miles of existing 69 kV line between Grace and Muskingum River stations. **Estimated Cost: \$4.1M (\$2791.7)**
- **Muskingum River Removals:** At Muskingum River 138 kV yard, retire the 138/69 kV XF #C, CB-HM & HW. **Estimated Cost: \$0.63M (\$2791.8)**
- **Grace Station, 69 kV:** Retire Grace - Muskingum River circuit, upgrade protection and fiber work at Grace Station. **Estimated Cost: \$0.91M (\$2791.9)**

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio





**Need Number:** AEP-2019-OH045 & AEP-2021-OH011

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

- **Grace – Watertown Fiber:** Install fiber between Grace and Watertown stations. **Estimated Cost: \$0.55M (\$2791.10)**
- **Wolf Creek & Corner Stations Protection upgrades:** Remote end protection upgrade. **Estimated Cost: \$0.65M (\$2791.11)**
- **Watertown (WEC) Metering:** Install 12 kV revenue metering at WEC's new Watertown station. **Estimated Cost: \$0.026M (\$2791.12)**

**Total Estimated Transmission Cost: \$38.9M**

**Projected In-Service:** 9/1/2024

**Supplemental Project ID:** s2791.1-.12

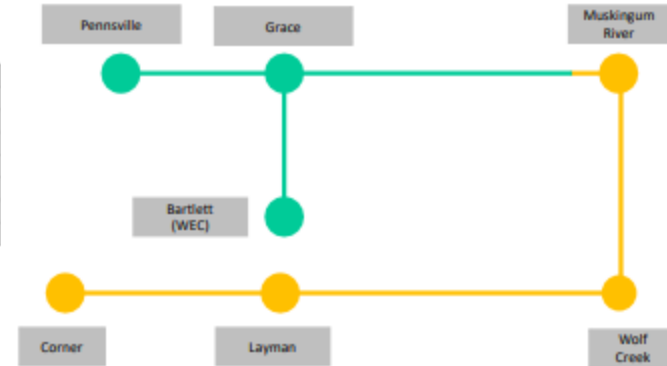
**Project Status:** Scoping

**Model:** 2025 RTEP

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio

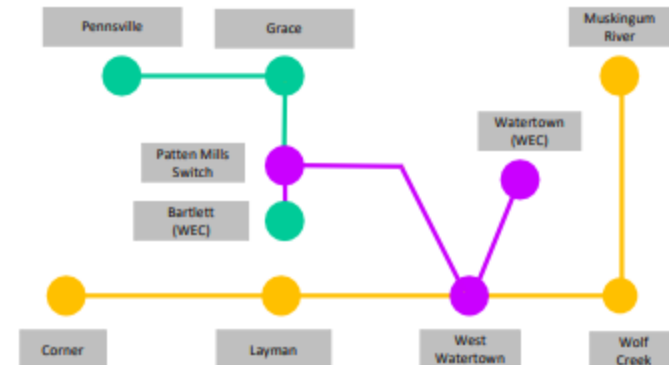
### Existing:

Legend	
500 kV	Red
345 kV	Blue
138 kV	Yellow
69 kV	Green
34.5 kV	Dark Red
25 kV	Light Red
New	Purple



### Bubble Diagram

### Proposed:







**Need Number:** AEP-2019-OH045

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

**Previously Presented:**

Solutions Meeting 06/15/2022

Need Meeting 07/24/2019

**Project Driver:**

Equipment Condition, Operational Flexibility, and Customer Service

**Specific Assumption Reference:**

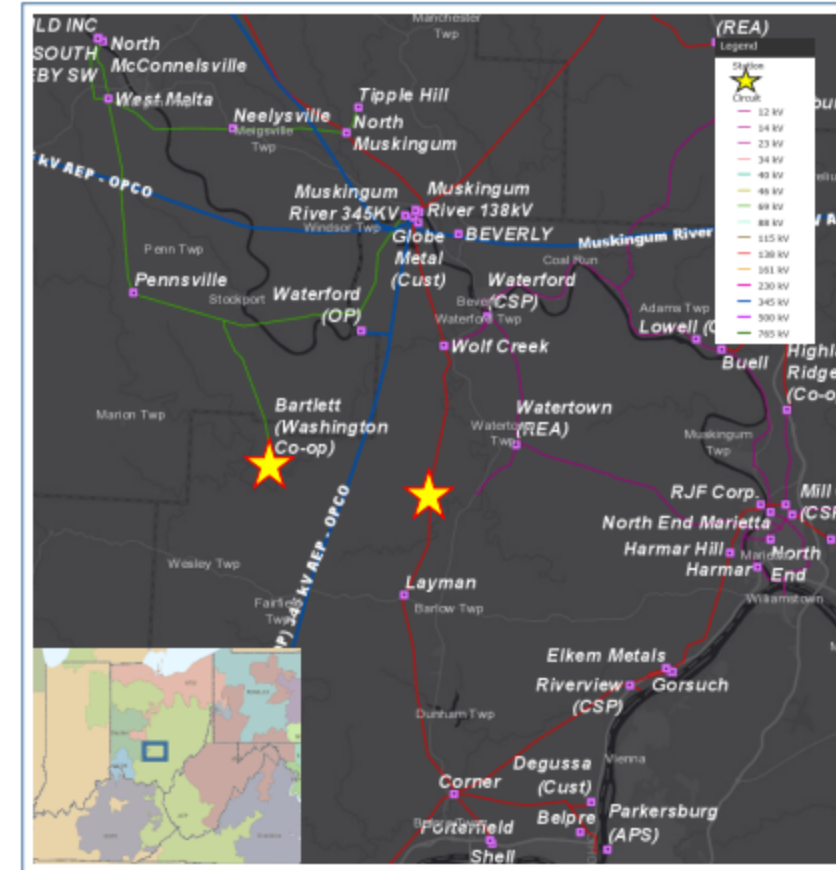
AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12) & AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

**Problem Statement:**

**Customer Service:**

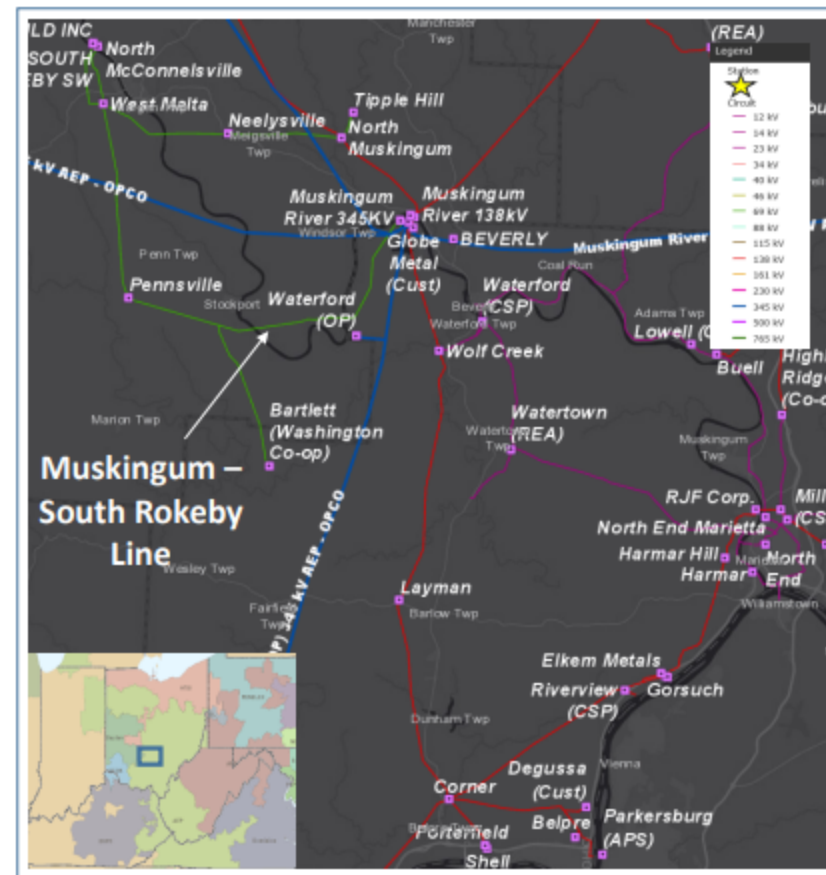
- Buckeye Power, on behalf of Washington Electric Cooperative, has requested transmission service in western Washington County, Ohio.
- Washington Electric Cooperative customers are currently connected to radial 23 kV and 12 kV AEP Ohio distribution lines in the area.
- The delivery points connected to the 23 kV system have consistently been identified as having poor reliability by Buckeye.
- Washington Electric Cooperative (WEC) has reported approximately 3,780,000 customer-outage minutes (CMI) over a ten year period (2012-2021).
- WEC's Bartlett delivery, which reported a 1,893,000 CMI between 2012-2021, is currently served via a 5 mile radial extension from a manual switch on the Muskingum River – South Rokeby 69 kV circuit.

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio





Washington Co-op's Bartlett Station is served radially from this line (~ 5.09 miles) with limited sectionalizing ability.







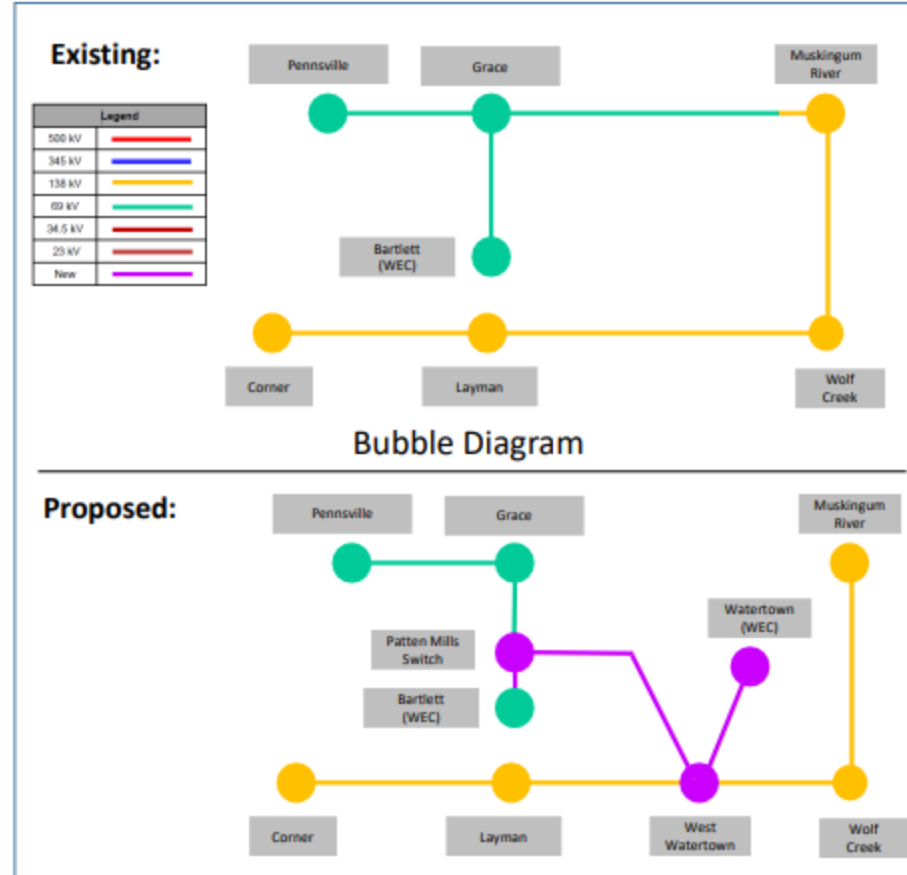
**Need Number:** AEP-2019-OH045 & AEP-2021-OH011

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

**Solution:**

- **West Watertown Station, 138 kV:** Construct a greenfield 138/69 kV West Watertown station off the existing Corner – Wolf Creek 138 kV circuit. Install four-138 kV 3000 A 40 kA breakers configured in a ring arrangement. Install 90 MVA 138/69/13.09 kV transformer along with a 3000A 40 kA 69 kV low side breaker towards WEC's Bartlett delivery. **Estimated Cost: \$8.8M (\$2791.1)**
- **Wolf Creek – Corner 138 kV Line cut-in:** Cut-in on the line to install the new West Watertown station. **Estimated Cost: \$0.55M (\$2791.2)**
- **West Watertown – Watertown (WEC) 138 kV circuit:** Construct approximately 4.3 miles of single circuit 138 kV line between the newly proposed West Watertown station and WEC's new 138 kV delivery at Watertown. **Estimated Cost: \$9.32M (\$2791.3)**
- **West Watertown – Patten Mills 69 kV circuit:** Construct approximately 5.8 miles of single circuit 69 kV line between the newly proposed West Watertown station and a proposed phase over phase switch (Patten Mills Switch) near WEC's delivery at Bartlett. **Estimated Cost: \$11.81M (\$2791.4)**
- **Patten Mills Switch, 69 kV:** Install a new 69 kV 2000A phase over phase (Patten Mills switch) to serve the Bartlett delivery point. **Estimated Cost: \$0.9M (\$2791.5)**
- **South Stockport - Washington Co-op 69 kV Line cut-in:** Cut-in on the line to install the new Patten Mills Switch. **Estimated Cost: \$0.65M. (\$2791.6)**
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- **Grace Station, 69 kV:** Retire Grace - Muskingum River circuit, upgrade protection and fiber work at Grace Station. **Estimated Cost: \$0.91M (\$2791.9)**

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio





**Need Number:** AEP-2019-OH045 & AEP-2021-OH011

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 10/12/2022

- **Grace – Watertown Fiber:** Install fiber between Grace and Watertown stations. **Estimated Cost: \$0.55M (\$2791.10)**
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**Total Estimated Transmission Cost: \$38.9M**

**Projected In-Service:** 9/1/2024

**Supplemental Project ID:** s2791.1-.12

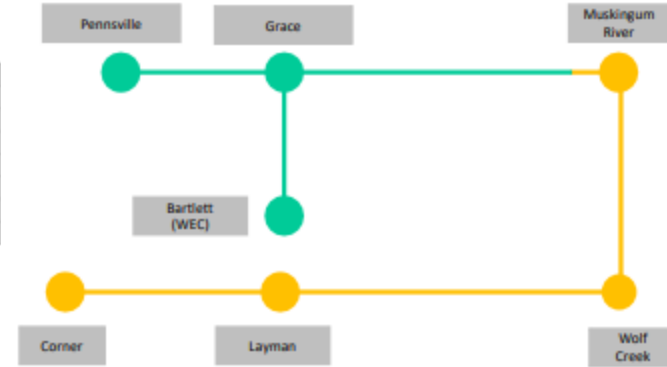
**Project Status:** Scoping

**Model:** 2025 RTEP

## AEP Transmission Zone M-3 Process Washington & Morgan Counties Ohio

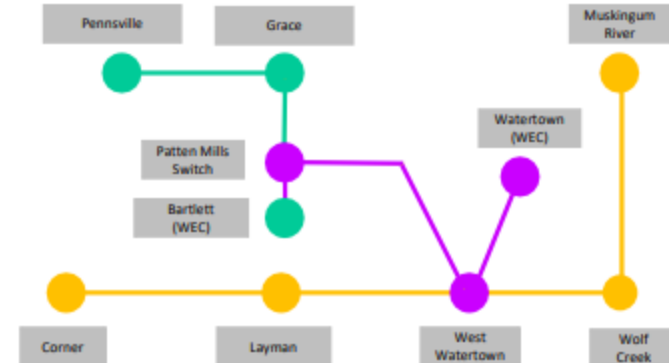
### Existing:

Legend	
500 kV	Red
345 kV	Blue
138 kV	Yellow
69 kV	Green
34.5 kV	Dark Red
25 kV	Light Red
New	Purple



### Bubble Diagram

### Proposed:



## **Appendix C Form Easement**

**Line Name:**  
**Line No.:**  
**Easement No.:**

### **EASEMENT AND RIGHT OF WAY**

On this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the covenants hereinafter set forth, \_\_\_\_\_ [landowner name and marital status] \_\_\_\_\_, whose address is \_\_\_\_\_ (“Grantor”), whether one or more persons, hereby grants, sells, conveys, and warrants to Ohio Power Company an Ohio corporation, a unit of American Electric Power, whose principal business address is 1 Riverside Plaza, Columbus, Ohio 43215 (“AEP”), and its successors and affiliates, a permanent easement and right of way (“Easement”) for a single electric transmission line, not to exceed 138 kV, and for internal communication purposes related to the supply of electricity (the “Transmission Line”), being, in, on, over, under, through and across the following described lands of Grantor, situated in the State of Ohio, County of \_\_\_\_\_, and Township of \_\_\_\_\_ and being a part of \_\_\_\_\_ [abbreviated legal description] \_\_\_\_\_ (“Grantor’s Property”).

*Contingent provision:* [Spouse of Grantor, if any] join herein for the purpose of releasing all dower rights in regard to the Easement.

Grantor claims title by \_\_\_\_\_ [name of vesting instrument] \_\_\_\_\_ dated \_\_\_\_\_ from \_\_\_\_\_ [name of first grantor] \_\_\_\_\_, recorded on \_\_\_\_\_ at \_\_\_\_\_ [record volume, page] \_\_\_\_\_ in the \_\_\_\_\_ County Recorder’s Office.

Auditor/Key/Tax Number: \_\_\_\_\_ [Tax Parcel Number] \_\_\_\_\_

The Easement Area is more fully described and depicted on Exhibit “A”, a copy of which is attached hereto and made a part hereof (“Easement Area”).

### **GRANTOR FURTHER GRANTS AEP THE FOLLOWING RIGHTS:**

The right, now or in the future, to construct, reconstruct, operate, maintain, alter, improve, inspect, patrol, protect, repair, remove, replace, upgrade and relocate within the Easement Area, structures and appurtenant equipment necessary for the Transmission Line.

The right, in AEP’s discretion, now or in the future, to cut down, trim or remove, and otherwise control, any and all trees, overhanging branches, vegetation or brush situated within the Easement Area and any temporary access roads or temporary workspaces identified on Exhibit “A” outside the Easement Area. Provided, however, that AEP shall not use herbicides or similar products for these purposes on any portions of the Grantor’s Property maintained for residential or agricultural use. AEP shall also have the right to cut down, trim or remove trees situated on Grantor’s Property which adjoin the Easement Area within the Tree Protection Zone when in the reasonable opinion of AEP those trees are dead, dying, diseased, leaning, or structurally defective and may endanger

the safety of, or interfere with the construction, operation or maintenance of AEP's facilities or ingress or egress to, from or along the Easement Area. The Tree Protection Zone extends eighty feet on all sides of the Easement Area depicted in Exhibit A.

AEP shall also have the right of reasonable ingress and egress over, across and upon the Easement Area only, unless additional access routes are depicted in the attached Exhibit A. Provided, however, that in the event access over, across and upon the Easement Area – and access routes, if any, shown in Exhibit A – shall become blocked or otherwise rendered unsafe or hazardous for use, AEP may temporarily access the Easement Area from other points across Grantor's Property, so long as that access is both reasonable and limited to the duration of the interference or safety hazard. AEP shall return the access area to its preexisting condition or pay damages to Grantor.

AEP shall also have the right to use temporary workspaces and temporary access roads outside the Easement Area, if any are shown on Exhibit A, in connection with its initial construction of the Transmission Line. AEP may shift the location of such temporary workspaces, if any, up to twenty (20) feet in any direction, and also shift the location of such temporary access roads, if any, up to twenty (20) feet in any direction, as field conditions or other requirements dictate. Upon completion of the overall Transmission Line project, but in no event later than two (2) years following the start of construction on Grantor's Property, AEP shall remove its equipment from all such temporary workspaces and temporary access roads outside the Easement Area, and AEP's temporary rights outside of the Easement Area shall automatically cease, terminate and revert to Grantor. AEP shall return any such areas to their preexisting condition or pay damages to Grantor as soon as practicable.

#### **THIS GRANT IS SUBJECT TO THE FOLLOWING CONDITIONS:**

Grantor reserves the right to cultivate annual crops, pasture, construct fences (provided gates are installed that adequately provide AEP the access rights conveyed herein) and roads or otherwise use Grantor's Property encumbered by this Easement in any way not inconsistent with the rights herein granted. In no event, however, shall Grantor, its heirs, successors, affiliates and assigns plant or cultivate any trees or place, construct, install, erect or permit any temporary or permanent building, structure, improvement or obstruction including but not limited to, storage tanks, billboards, signs, sheds, dumpsters, light poles, water impoundments, above ground irrigation systems, swimming pools or wells, or permit any alteration of the ground elevation, over, or within the Easement Area. AEP may, at Grantor's cost, remove any structure or obstruction if placed within the Easement Area, and may re-grade any alterations of the ground elevation within the Easement Area.

AEP agrees to repair or pay Grantor for actual damages sustained by Grantor to crops, fences, gates, irrigation and drainage systems, drives, or lawns that are permitted herein, when such damages arise out of AEP's exercise of the rights herein granted.

Pursuant to R.C. 163.02, Grantor possesses a right of repurchase pursuant to R.C. 163.211 if AEP decides not to use Grantor's Property for the purpose stated in the appropriation petition and Grantor provides timely notice of a desire to repurchase.

This instrument contains the complete agreement, expressed or implied between the parties herein and shall inure to the benefit of and be binding on their respective successors, affiliates, heirs, executors, and administrators.

This Easement may be executed in counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one and the same instrument.

**Any remaining space on this page left intentionally blank. See next page(s) for signature(s).**

**IN WITNESS WHEREOF**, said Grantor hereunto set their hand(s) and seal(s) as of the last date set forth below.

**GRANTOR**

*SIGNATURE BLOCK FOR A BUSINESS ENTITY / TRUST:*

[name of entity/trust & kind of business association identified]

By: \_\_\_\_\_  
Print name: \_\_\_\_\_  
Its Authorized Signer

State of Ohio                    §  
   § SS:  
County of \_\_\_\_\_ §

This instrument was acknowledged before me on this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_  
by \_\_\_\_\_, the \_\_\_\_\_ [title] \_\_\_\_\_ of \_\_\_\_\_ [name of  
entity/trust] \_\_\_\_\_, a/an \_\_\_\_\_ [state of incorporation and type of entity/trust] \_\_\_\_\_, on behalf of  
\_\_\_\_\_ [name of entity/trust] \_\_\_\_\_.

\_\_\_\_\_  
Notary

-----  
*SIGNATURE BLOCK FOR AN INDIVIDUAL:*

\_\_\_\_\_  
[Typed name of individual] \_\_\_\_\_

State of Ohio                    §  
   § SS:  
County of \_\_\_\_\_ §

This instrument was acknowledged before me on this \_\_\_\_\_ day of \_\_\_\_\_,  
202\_\_ by \_\_\_\_\_ [name of individual] \_\_\_\_\_.

\_\_\_\_\_  
Notary

This instrument prepared by Marland Turner, American Electric Power Service Corporation, 1  
Riverside Plaza, Columbus, OH 43215 for and on behalf of Ohio Power Company a unit of  
American Electric Power.

When recorded return to: American Electric Power – Transmission Right of Way, 8600 Smith's  
Mill Road, New Albany, OH 43054.

## **Appendix D Agency Coordination**





In reply, refer to  
2025-WAS-64822

May 20, 2025

Mr. Ryan J. Weller  
Weller & Associates, Inc.  
1395 West Fifth Avenue  
Columbus, Ohio 43212  
rweller@wellercrm.com

**RE: Wolf Creek-Corner Transmission Line Project, Palmer Township, Washington County, Ohio**

Dear Mr. Weller:

This letter is in response to the correspondence received on April 21, 2025, regarding the proposed Wolf Creek-Corner Transmission Line Project located in Palmer Township, Washington County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board (OPSB) rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Management Investigations for the .35 km (.22 mi) Wolf Creek-Corner Transmission Line Project in Palmer Township, Washington County, Ohio* by Ryan J. Weller and Scott McIntosh (Weller & Associates, Inc. 2025). A literature review, visual inspection, and shovel test unit excavation were completed as part of the investigations. The project corridor had not been previously professionally surveyed, nor were there any previously documented archaeological sites located within or adjacent to the project corridor. No new archaeological sites were identified during the current survey. Our office agrees no additional archaeological investigation is needed. There were no architectural resources located within the Area of Potential Effect (APE).

Based on the information provided, our office agrees the project, as proposed, will have no effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional archaeological resources are discovered during the implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me by e-mail at [cgullett@ohiohistory.org](mailto:cgullett@ohiohistory.org). Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Catherine Gullett".

Catherine Gullett, Project Reviews Coordinator - Archaeology  
Resource Protection and Review  
State Historic Preservation Office

RPR Serial No. 1108588



**Department of  
Natural Resources**  
ohiodnr.gov

**Mike DeWine, Governor**  
**Jim Tressel, Lt. Governor**  
**Mary Mertz, Director**

**Office of Real Estate & Land Management**

Tara Paciorek - Chief  
2045 Morse Road – E-2  
Columbus, Ohio 43229-6693

March 20, 2025

Kristen Vonderwish  
GAI Consultants  
5399 Lauby Road, Suite 120  
North Canton, Ohio 44720

**Re:** 25-0310 - West Watertown-Watertown 138kV Transmission Line

**Project:** The proposed project involves the construction of a greenfield 138kV transmission line as part of the expansion of electric transmission infrastructure and service in the Watertown area.

**Location:** The proposed project is located in Watertown Township, Washington County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state, or federal agency nor relieve the applicant of the obligation to comply with any local, state, or federal laws or regulations.

**Natural Heritage Database:** A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. Records searched date from 1980.

Please note that Ohio has not been completely surveyed, and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer

(April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at [Eileen.Wyza@dnr.ohio.gov](mailto:Eileen.Wyza@dnr.ohio.gov)).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES](#)." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species:

Federally Endangered

fanshell (*Cyprogenia stegaria*)  
sheepnose (*Plethobasus cyphyus*)  
pink mucket (*Lampsilis abrupta*)  
snuffbox (*Epioblasma triquetra*)

State Endangered

butterfly (*Ellipsaria lineolata*)  
Ohio pigtoe (*Pleurobema cordatum*)  
elephant-ear (*Elliptio crassidens crassidens*)  
pyramid pigtoe (*Pleurobema rubrum*)  
long-solid (*Fusconaia subrotunda*)  
pocketbook (*Lampsilis ovata*)  
monkeyface (*Theliderma metanevra*)  
washboard (*Megaloniaias nervosa*)

State Threatened

Salamander Mussel (*Simpsonaias ambigua*)

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2024), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above

the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the [Ohio Mussel Survey Protocol](#). If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the following listed fish species:

State Endangered

goldeye (*Hiodon alosoides*)  
pugnose minnow (*Opsopoeodus emiliae*)  
northern madtom (*Noturus stigmosus*)  
western banded killifish (*Fundulus diaphanus menona*)  
Ohio lamprey (*Ichthyomyzon bdellium*)

State Threatened

American eel (*Anguilla rostrata*)  
mountain madtom (*Noturus eleutherus*)  
blue sucker (*Cycleptus elongatus*)  
paddlefish (*Polyodon spathula*)  
channel darter (*Percina copelandi*)  
river darter (*Percina shumardi*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the timber rattlesnake (*Crotalus horridus*), a state endangered species, and a federal species of concern. The timber rattlesnake is a woodland species, utilizing dry slopes and rocky outcrops. In addition to using wooded areas, the timber rattlesnake utilizes sunlit gaps in the canopy for basking and deep rock crevices for overwintering. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys.

Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

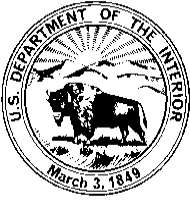
Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

**Water Resources:** The Division of Water Resources has the following comment.

If the subject project is in a floodplain regulated by the Federal Emergency Management Agency (FEMA), the [local floodplain administrator](#) should be contacted concerning the possible need for any floodplain permits or approvals. The FEMA National Flood Hazard Layer (NHFL) Viewer [website](#) can be utilized to see if the project is in a FEMA regulated floodplain. If the project is not in a FEMA regulated floodplain, then no further action is required.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew (Environmental Services Administrator) at [mike.pettegrew@dnr.ohio.gov](mailto:mike.pettegrew@dnr.ohio.gov) if you have questions about these comments or need additional information.

**Expiration:** *ODNR Environmental Reviews are typically valid for 2 years from the issuance date. If the scope of work, project area, construction limits, and/or anticipated impacts to natural resources have changed significantly from the original project submittal, then a new Environmental Review request should be submitted.*



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / FAX (614) 416-8994



March 3, 2025

Project Code: 2025-0059546

Dear Ms. Vonderwish:

The U.S. Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened, endangered, and proposed species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Federally Proposed Species: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

*Seasonal Tree Clearing for Federally Listed Bat Species:* Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats and northern long-eared bats. If Indiana bats and northern long-eared bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio ([https://epa.ohio.gov/portals/47/facts/ohio\\_wetlands.pdf](https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf)). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Environmental Services Administrator, at (614) 265-6387 or at [mike.pettegrew@dnr.ohio.gov](mailto:mike.pettegrew@dnr.ohio.gov).

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or [ohio@fws.gov](mailto:ohio@fws.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Erin Knoll".

Erin Knoll  
Field Office Supervisor

cc: Matthew.Stooksbury@dnr.ohio.gov  
Eileen.Wyza@dnr.ohio.gov



## Appendix E Federal and State Listed Endangered Species

Agency	Status	Species Type	Listed Species	Scientific Name	Impacts Anticipated
USFWS	Federally endangered	Bat	Indiana bat	<i>Myotis sodalis</i>	No <sup>1</sup>
USFWS	Federally endangered	Bat	Northern long-eared bat	<i>Myotis septentrionalis</i>	No <sup>1</sup>
ODNR-DOW	Federally and State endangered	Bat	Indiana bat	<i>Myotis sodalis</i>	No <sup>2</sup>
ODNR-DOW	Federally and State endangered	Bat	northern long-eared bat	<i>Myotis septentrionalis</i>	No <sup>2</sup>
ODNR-DOW	State endangered	Bat	Little brown bat	<i>Myotis lucifugus</i>	No <sup>2</sup>
ODNR-DOW	State endangered	Bat	Tricolored bat	<i>Perimyotis subflavus</i>	No <sup>2</sup>
ODNR-DOW	Federally endangered	Mussel	Fanshell	<i>Cyprogenia stegaria</i>	No
ODNR-DOW	Federally endangered	Mussel	Sheepnose	<i>Plethobasus cyphus</i>	No
ODNR-DOW	Federally endangered	Mussel	Pink mucket	<i>Lampsilis orbiculata</i>	No
ODNR-DOW	Federally endangered	Mussel	Snuffbox	<i>Epioblasma triquetra</i> );	No
ODNR-DOW	State endangered	Mussel	Butterfly	<i>Ellipsaria lineolata</i>	No
ODNR-DOW	State endangered	Mussel	Ohio pigtoe	<i>Pleurobema cordatum</i> ),	No
ODNR-DOW	State endangered	Mussel	Elephant-ear	<i>Elliptio crassidens</i>	No
ODNR-DOW	State endangered	Mussel	Pyramid pigtoe	<i>Pleurobema rubrum</i>	No
ODNR-DOW	State endangered	Mussel	Long-solid	<i>Fusconaia maculata maculata</i>	No
ODNR-DOW	State endangered	Mussel	Sharp-ridged pocketbook	<i>Lampsilis ovata</i>	No
ODNR-DOW	State endangered	Mussel	Monkeyface	<i>Quadrula metanevra</i>	No
ODNR-DOW	State endangered	Mussel	Washboard	<i>Megaloniais nervosa</i>	No

**CONSTRUCTION NOTICE FOR THE WOLF CREEK - CORNER 138 KV TRANSMISSION LINE CUT-IN PROJECT**

ODNR-DOW	State threatened	Mussel	Salamander mussel	<i>Simpsonaias ambigua</i>	No
ODNR-DOW	State endangered	Fish	Goldeye	<i>Hiodon alosoides</i>	No
ODNR-DOW	State endangered	Fish	Pugnose minnow	<i>Opsopoeodus emiliae</i>	No
ODNR-DOW	State endangered	Fish	Northern madtom	<i>Noturus stigmosus</i>	No
ODNR-DOW	State endangered	Fish	Western banded killifish	<i>Fundulus diaphanus menona</i>	No
ODNR-DOW	State endangered	Fish	Ohio lamprey	<i>Ichthyomyzon bdellium</i>	No
ODNR-DOW	State threatened	Fish	American eel	<i>Anguilla rostrata</i>	No
ODNR-DOW	State threatened	Fish	Mountain madtom	<i>Noturus eleutherus</i>	No
ODNR-DOW	State threatened	Fish	Blue sucker	<i>Cycleptus elongatus</i>	No
ODNR-DOW	State threatened	Fish	Paddlefish	<i>Polyodon spathula</i>	No
ODNR-DOW	State threatened	Fish	Channel darter	<i>Percina copelandi</i>	No
ODNR-DOW	State threatened	Fish	River darter	<i>Percina shumardi</i>	No
ODNR-DOW	State endangered	Snake	Timber rattlesnake	<i>Crotalus horridus</i>	No
ODNR-DOW	State and federal species of concern	Salamander	Eastern hellbender	<i>Cryptobranchus alleganiensis alleganiensis</i>	No
ODNR-DOW	State endangered	Toad	Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>	No

<sup>1</sup> If the Project contains trees greater than or equal to 3 inches diameter at breast height (dbh), USFWS recommends avoiding tree removal whenever possible. If no caves or abandoned mines are present and trees greater than or equal to 3 inches dbh cannot be avoided, USFWS recommends removal only occur between October 1 and March 31. The Company anticipates the need to clear trees for the Project, which will occur within the USFWS recommendation for seasonal tree clearing between October 1 to March 31.

<sup>2</sup> If trees must be cut, ODNR-DOW recommended cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices holes or cavities, as well as trees with dbh  $\geq$  20 inches. ODNR-DOW also recommended that a desktop habitat assessment be conducted, followed by a field assessment if needed, to determine if there are potential hibernaculum(a) present within 0.25 miles of the Project area. The Company's consultant did not find record of any abandoned mine openings within 0.25-

## **CONSTRUCTION NOTICE FOR THE WOLF CREEK - CORNER 138 KV TRANSMISSION LINE CUT-IN PROJECT**

mile of the Project centerline. In addition, no potential bat hibernacula were observed within the Project area during the field surveys. However, potentially suitable summer foraging and roosting habitat was observed within the Project area. The Company anticipates the need for tree clearing, which will be conducted between October 1 and March 31.

## **Appendix F Ecological Survey Report**



# Ecological Survey Report

AEP Ohio Transmission Company  
Wolf Creek-Corner 138-kV Transmission Line Project  
Washington County, Ohio

GAI Project Number: R200062.71, Task 003

April 2025

Prepared for:  
American Electric Power Service Corporation  
8600 Smiths Mill Road  
New Albany, Ohio 43054

Prepared by:  
GAI Consultants, Inc.  
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Figure 1 Project Location Map

Figure 2 Resource Location Map

Figure 3 Stream Eligibility Map

Appendix A Photographic Log

Appendix B ODNR and USFWS Correspondence

## 1.0 Introduction

GAI Consultants, Inc. (GAI), on behalf of American Electric Power Ohio Transmission Company (AEP), completed an ecological field review for the Wolf Creek-Corner 138 kilovolt (kV) Transmission Line Project (Project) located in Washington County, Ohio (OH). The proposed Project is to rebuild a section of the Wolf Creek-Corner line to tie into the new West Watertown Station.

An ecological field review was conducted on April 8, 2025. The Project study area consisted of a 100-foot-wide corridor for a 1,000-foot-long line segment (approximately 2.3 acres) along the west side of Reed Road south of the proposed West Watertown Station, as shown on Figure 1.

The Project study area is located within the South West Branch Wolf Creek (United States Geological Survey [USGS] Hydrologic Unit Code [HUC] 12 #050400040901) watershed.

This report details the results of the ecological field review regarding the existence of aquatic resources within the Project study area (Figure 2). Photographs of the Project area are included in Appendix A. The United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) correspondence letters regarding rare, threatened, and endangered species are provided in Appendix B.

## 2.0 Methods

### 2.1 Wetlands

The 1987 USACE *Corps of Engineers Wetlands Delineation Manual* (Wetlands Delineation Manual) (USACE, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region, Version 2.0* (Regional Supplement) (USACE, 2012a) describe the methods used to identify and delineate wetlands that could fall under the jurisdiction of the USACE. This approach recognizes the three parameters to delineate a wetland: hydrology, hydrophytic vegetation, and hydric soils. In conducting the wetland investigation, GAI completed preliminary data gathering and onsite fieldwork in accordance with the Wetland Delineation Manual and Regional Supplement.

#### 2.1.1 Preliminary Data Gathering

Published data was compiled and reviewed to identify previously mapped wetlands and areas that warrant further inspection during the fieldwork. The preliminary data gathering included a review of the following:

- ▶ USGS 7.5-minute topographic maps for Fleming (1961) and Watertown (1976), OH (Figure 1);
- ▶ USFWS, National Wetlands Inventory (NWI) data (USFWS, 2022) (Figure 2);
- ▶ Federal Emergency Management Agency (FEMA), National Flood Hazard Layer (FEMA, 2022) (Figure 2); and,
- ▶ United States Department of Agriculture, Natural Resources Conservation Service (Soil Survey Staff-NRCS-USDA, 2022) soil maps (Figure 3).

USGS topographic maps were used to identify mapped streams and the overall terrain of the landscape and to identify locations potentially supporting wetlands, such as floodplains and depressions. NWI data provided the location of potential wetlands and are based on the analysis of high-altitude imagery in conjunction with collateral data sources and limited fieldwork. USDA-NRCS soil maps identified the location and extent of mapped hydric soils that have a greater probability of containing wetlands.

### 2.1.2 Onsite Inspection

The methodology described in the Wetland Delineation Manual and Regional Supplement identifies areas meeting the definition of a wetland by evaluating three parameters: hydrology, vegetation, and soil. During the onsite fieldwork, GAI staff, trained in the USACE method, traversed the Project study area on foot to determine if indicators of wetlands were present, including hydrology, hydrophytic vegetation, and/or hydric soils. When indicators of wetlands were observed, an observation point was established, and a Regional Supplement Wetland Determination Data Form was completed to determine if each of the three wetland indicators were present.

The presence of wetland hydrology was determined by examining the observation point for primary and secondary indicators of wetland hydrology. The presence of one primary indicator or the presence of two or more secondary indicators signified the presence of wetland hydrology.

Vegetation was characterized by four or five different strata (dependent upon the Wetland Determination Data Form used). This included trees (more than three inches in diameter at breast height [DBH]), saplings/shrubs (less than three inches DBH and more than 3.28-foot tall), herbaceous (and woody plants less than 3.28-foot tall), and woody vines. The sample plot size varied for each stratum. Trees and woody vines were typically sampled within a 30-foot radius. Saplings and shrubs were typically sampled within a 15-foot radius. Herbaceous species were typically sampled within a five-foot radius. In some instances, the wetland boundary served as the sample plot.

When evaluating an area for the presence of hydrophytes (plants that grow either partially or totally submerged in water), classification of the indicator status of vegetation was based on *The National Wetland Plant List: 2020 Update of Wetland Ratings*, version 3.5 (USACE, 2020). The list of possible indicator statuses for plants is as follows (USACE, 2012b):

- Obligate (OBL) – Occur almost always under natural conditions in wetlands.
- Facultative Wetland (FACW) – Usually occur in wetlands but occasionally found in non-wetlands.
- Facultative (FAC) – Equally likely to occur in wetlands and non-wetlands.
- Facultative Upland (FACU) – Usually occur in non-wetlands but occasionally found in wetlands.
- Upland (UPL) – Occur in wetlands in another region but occur almost always under natural conditions in non-wetlands in the region specified.

The presence of dominant hydrophytic vegetation was then determined by using a Rapid Test, Dominance Test, or Prevalence Index, and where appropriate Morphological Adaptations (USACE, 2012a).

To determine the presence of hydric soils, soil data was collected by digging a soil pit up to 20-inches-deep. The soil profile was studied and described, while possible hydric indicators were examined. Soil indicators described in the Wetlands Delineation Manual and Regional Supplement were used to determine the presence of hydric soils. The presence of these indicators signified hydric soil.

If the parameters for wetland hydrology, a dominance of hydrophytic vegetation, and hydric soils were identified at a single observation point, the area was determined to be a wetland. Once a wetland was identified, the boundary was delineated.

Wetland boundaries were determined by looking for locations in which one of the three wetland indicators would transition into an upland characteristic. When the transition was identified, a



Wetland Delineation Data Form is completed in the upland area. Wetland boundaries were then marked in the field using pink flagging labeled "WETLAND DELINEATION." The locations of the flags are recorded using a Global Positioning System (GPS) unit. Each wetland is codified with a unique identifier indicating the feature type and number (e.g., W001).

Wetlands were then classified using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979) as modified for the NWI Mapping Convention. This system classifies wetlands based on topographic position and vegetation type. Palustrine system wetlands were classified as either Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), Palustrine Forested (PFO), or Palustrine Unconsolidated Bottom (PUB) based on aerial coverage of the vegetation community across the extent of the wetland boundary within the study area (Cowardin et al., 1979). Classification was based on the uppermost layer of vegetation that possessed an aerial coverage of 30 percent or greater (Cowardin, et al., 1979).

## 2.2 Waterbodies

Generally, waterbodies are defined as environmental features that have defined beds and banks, an ordinary high-water mark (OHWM), and contain flowing or standing water for at least a portion of the year.

### 2.2.1 Preliminary Data Gathering

USGS 7.5-minute topographic mapping was examined for the presence of mapped waterbodies including perennial and intermittent streams. In addition, the topographic mapping was used to identify areas likely to contain unmapped waterbodies including ephemeral streams (USGS, 1961; 1976) (Figure 1).

The OEPA 401 Water Quality Certification for the 2021 Nationwide Permits Stream Eligibility Web Map (OEPA, 2023) was used to determine eligibility for coverage under the Clean Water Act (CWA) Section 401 Water Quality Certification (WQC) for the 2021 Nationwide Permits (NWP). Furthermore, the map was used to identify ineligible areas that may require a CWA Section 401 individual permit from the OEPA should stream impacts occur within the Project study area (Figure 3).

### 2.2.2 Onsite Inspection

During the onsite inspection, GAI staff traversed the study area, concurrently with the wetland delineation and identified waterbodies. Waterbodies were identified based on the morphological and hydrologic characteristics of the channel and the presence of aquatic macroinvertebrates.

When a waterbody is identified, field measurements are collected. The measurements include top of bank width, top of bank depth, pool depth, water depth, and the lateral extent of the OHWM. A description of substrate composition is also recorded. The OHWM defines the lateral extent of non-tidal aquatic resources in the absence of adjacent wetlands. The federal regulatory definition of the OHWM, 33 CFR 328.3(c)(7), states the OHWM is "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." The USACE *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (USACE, 2022) was used to define the lateral extent of the OHWM. Waterbodies are then delineated using white flagging marked with the GAI stream code (e.g., S001). The tops-of-bank for streams wider than 10 feet are delineated, while the centerline of smaller streams is delineated. The locations of the flags are recorded using a sub-meter-capable hand-held GPS unit.

## **2.3 Rare, Threatened, and Endangered Species**

GAI conducts a literature review of the potential for rare, threatened, and endangered (RTE) species in the vicinity of the Project study area. Potential habitat for RTE species is noted during the ecological field review.

### **2.3.1 Preliminary Data Gathering**

A request for review of the OH Natural Heritage Database is submitted to the ODNR to determine if state-listed threatened or endangered species are known to or could occur within a one-mile radius of the Project study area. A request is also submitted to the USFWS Ohio Ecological Services Field Office to determine if federally listed threatened or endangered species are known to or could occur within the vicinity of the Project study area.

### **2.3.2 Onsite Inspection**

During the onsite inspection, GAI staff traversed the study area in conjunction with the wetland and waterbody inspections to document if suitable habitat for state- and/or federally listed RTE species is present within the study area.

## **3.0 Results**

### **3.1 Wetlands**

#### **3.1.1 Preliminary Data Gathering**

A desktop review of available USFWS NWI digital data for the Project did not identify any NWI mapped wetlands within the Project Study Area (USFWS, 2022).

#### **3.1.2 Onsite Inspection**

No wetlands were identified or delineated within the Project study area.

#### **3.1.3 Regulatory Discussion**

A USACE Jurisdictional Determination in accordance with current guidance and policy would determine which of the identified wetlands are regulated at the federal level. Wetlands that do not fall within the jurisdiction of the USACE could be regulated at the state level by the OEPA through their Isolated Wetland Program.

As regulated by Ohio Administrative Code (OAC) rules 3745-1-50 through 3745-1-54, wetlands were evaluated using the ORAM to determine the appropriate wetland category. A wetland with a score within a gray zone between categories was scored one of two ways. Either the wetland was assigned to the higher of the two categories or it was assessed using a non-rapid method to determine its quality (Mack, 2001). Wetlands were assigned a category based on their ORAM score and current OEPA guidance (Mack, 2000). The category assigned to a particular wetland determines the requirement, if any, for additional levels of protection administered by the OEPA.

According to the USDA-NRCS soil mapping, a total of 2 soil map units are located within the Project study area (Figure 2). No soil map units are classified as hydric or are known to contain hydric inclusions.

### **3.2 Waterbodies**

#### **3.2.1 Preliminary Data Gathering**

Desktop review of the available USGS topographic mapping did not reveal any previously mapped stream segments located within the Project study area (Figure 1). Desktop review of OEPA's Stream Eligibility Web Map revealed the Project is located within watersheds categorized as "Eligible" for automatic 401 WQC coverage (Figure 3).

### 3.2.2 Onsite Inspection

No stream segments were identified within the Project study area.

One stormwater erosional feature (SWE) was identified within the Project study area. The SWE did not appear to meet the criteria of a stream and have an OHWM.

### 3.2.3 Regulatory Discussion

As with wetlands, present USACE guidance and policy determines the jurisdictional status of waterbodies identified during the Project. TNWs and tributaries are considered jurisdictional.

Streams are generally defined as environmental features that have defined beds and banks, an OHWM, and contain flowing or standing waters for at least a portion of the year (USACE, 2022). Streams were classified as perennial, intermittent, or ephemeral based upon presence of flow, estimated duration of flow, stream bed characteristics, and presence of aquatic biota.

As regulated by OAC Chapter 3745-1-24, streams were assessed according to OEPA guidance using either the HHEI for watersheds less than one square mile in size, or the Qualitative Habitat Evaluation Index (QHEI) for watersheds between one and 20 square miles in size (OEPA, 2018; OEPA, 2006). Streams specifically identified in the OAC Water Quality Standards were not evaluated with either the HHEI or QHEI method.

Whereby the USACE should not take jurisdiction over an ephemeral stream, the OEPA considers ephemeral streams as “waters of the state” (Ohio Revised Code, Section 6111), and thus regulated according to the Ohio’s 401 Water Quality Standards.

## 3.3 Rare, Threatened, and Endangered Species

### 3.3.1 Preliminary Data Gathering

A desktop review of ODNR, Division of Wildlife’s (DOW) Ohio’s Listed Species for Washington County identified 42 wildlife species as endangered, threatened, and species of concern (ODNR, 2023).

A review of the USFWS Environmental Conservation Online System Information for Planning and Consultation (IPaC) website identified four federally endangered, threatened, proposed endangered, or candidate species that may occur within the Project study area. The list of species includes the following:

- ▶ Indiana bat (*Myotis sodalis*) – Endangered;
- ▶ Northern long-eared bat (*Myotis septentrionalis*) – Endangered;
- ▶ Tricolored bat (*Perimyotis subflavus*) – Proposed Endangered;
- ▶ Monarch Butterfly (*Danaus plexippus*) – Candidate.

According to the Project’s IPaC report, there are no critical habitats within the Project area under the jurisdiction of the USFWS.

The ODNR and USFWS consultation letters were submitted on February 21, 2025. A response from the USFWS was received on March 3, 2025 (Project Code: 2025-0059546) and a response from the ODNR was received on March 20, 2025 (Project Code: 25-0310), and are included in Appendix B.

### 3.3.2 Onsite Inspection

Potential habitat for RTE species was preliminarily evaluated within the Project study area. In general, the habitat encountered within the study area consisted of mixed deciduous forest/woods and agricultural land.

The deciduous trees in the Project study area would be potential habitat for listed bat species and cutting the trees during the winter months would avoid impacts to the bats. Impacts to listed fish and mussel species are not anticipated because there are no perennial streams located within the Project area.

A list of RTE species identified by the ODNR and USFWS is included in the table below.

#### ODNR and USFWS RTE Species and Habitat Review Results

Species	State Listed Status <sup>1</sup>	Federal Listed Status <sup>1</sup>	Typical Habitat	Habitat Observed	Impacts to Habitat/Species Anticipated?	Potential Impacts and Avoidance Dates
<b>Amphibians</b>						
Eastern spadefoot <sup>2</sup> <i>Scaphiopus holbrookii</i>	E	-	Sandy soils that are associated with river valleys; breeding habitats may include flooded agricultural fields or other water holding depressions	No	No; No know habitat is within project area	-
Eastern Hellbender <sup>2</sup> <i>Cryptobranchus alleganiensis</i>	E	SC	Perennial streams with large flat rocks.	No	No; In-stream work is not proposed in perennial streams	-
<b>Bats</b>						
Indiana bat <sup>2, 3</sup> <i>Myotis sodalis</i>	E	E	Trees >3" dbh, caves abandoned mines, wooded areas with loose tree bark or dead or dying trees.	Yes	No; Avoided with winter tree clearing	April 1 to September 30
Northern long-eared bat <sup>2, 3</sup> <i>Myotis septentrionalis</i>	E	E	Roost in cavities or in crevices of both live trees and snags; Hibernate in caves and mines with constant temperatures, high humidity, and no air currents.	Yes	No; Avoided with winter tree clearing	April 1 to September 30
Tricolored bat <sup>2, 3</sup> <i>Perimyotis subflavus</i>	E	-	Roost in cavities or in crevices of both live trees and snags; Hibernate in caves and mines with constant temperatures, high humidity, and no air currents.	Yes	No; Avoided with winter tree clearing	April 1 to September 30
Little brown bat <sup>2</sup> <i>Myotis lucifugus</i>	E	-	Early successional habitats dominated by herbaceous vegetation with less than 30% woody material	Yes	No; Avoided with winter tree clearing	April 1 to September 30
<b>Fish</b>						
Goldeneye <sup>2</sup> <i>Hiodon alosoides</i>	E	-	Found in areas with swift currents, often below dams. In Ohio the goldeye is found in the Ohio River and its larger tributaries, particularly the Scioto River	No	No; In-stream work is not proposed in perennial streams	-

Species	State Listed Status <sup>1</sup>	Federal Listed Status <sup>1</sup>	Typical Habitat	Habitat Observed	Impacts to Habitat/Species Anticipated?	Potential Impacts and Avoidance Dates
<b>Fish (continued)</b>						
Northern Madtom <sup>2</sup> <i>Noturus stigmosus</i>	E	-	Found in deep swift riffles of large rivers; usually found in and around cobbles and boulders	No	No; In-stream work is not proposed in perennial streams	-
Ohio Lamprey <sup>2</sup> <i>Ichthyomyzon bdellium</i>	E	-	Freshwater species inhabiting warmwater habitats in the Ohio River Basin; prefer slow areas with soft substrates and high detrital content	No	No; In-stream work is not proposed in perennial streams	-
Pugnose minnow <sup>2</sup> <i>Opsopoeodus emiliae</i>	E	-	Prefers clear water with aquatic vegetation where the bottom is comprised of organic debris or sand	No	No; In-stream work is not proposed in perennial streams	-
Western banded killifish <sup>2</sup> <i>Fundulus diaphanus menona</i>	E	-	Found in areas with an abundance of rooted aquatic vegetation, clear waters, and with substrates of clean sand or organic debris free of silt	No	No; In-stream work is not proposed in perennial streams	-
Blue Sucker <sup>2</sup> <i>Cycleptus elongatus</i>	T	-	Inhabitant of deep swiftly flowing chutes or channels of large rivers; fast gravel bottomed chutes	No	No; In-stream work is not proposed in perennial streams	-
Mountain Madtom <sup>2</sup> <i>Noturus eleutherus</i>	T	-	Found in deep swift riffles of large rivers; usually found in and around cobbles and boulders	No	No; In-stream work is not proposed in perennial streams	-
American Eel <sup>2</sup> <i>Anguilla rostrata</i>	T	-	Occur most often in moderate or large rivers with continuous flow and moderately clear water	No	No; In-stream work is not proposed in perennial streams	-
Channel Darter <sup>2</sup> <i>Percina copelandi</i>	T	-	Found in large coarse sand or fine gravel bars in large rivers or along the shore of Lake Erie	No	No; In-stream work is not proposed in perennial streams	-
Paddlefish <sup>2</sup> <i>Polyodon spathula</i>	T	-	Found in the Ohio River and up to the first dam on its larger tributaries	No	No; In-stream work is not proposed in perennial streams	-
River darter <sup>2</sup> <i>Percina shumardi</i>	T	-	Found in very large rivers typically in areas of swift current	No	No; In-stream work is not proposed in perennial streams	-
<b>Mussels</b>						
Butterfly <sup>2</sup> <i>Ellipsaria lineolata</i>	E	-	Large rivers with swift currents in sand or gravel substrates	No	No; In-stream work is not proposed in perennial streams	-
Fanshell <sup>2</sup> <i>Cyprogenia stegaria</i>	-	E	A riverine species, occasionally in large creeks, in stable cobble and sand	No	No; In-stream work is not proposed in perennial streams	-
Elephant-ear <sup>2</sup> <i>Elliptio crassidens</i>	E	-	Primarily inhabits large rivers in mud, sand, or fine gravel	No	No; In-stream work is not proposed in perennial streams	-

Species	State Listed Status <sup>1</sup>	Federal Listed Status <sup>1</sup>	Typical Habitat	Habitat Observed	Impacts to Habitat/Species Anticipated?	Potential Impacts and Avoidance Dates
<b>Mussels (continued)</b>						
Long-solid <sup>2</sup> <i>Fusconaia subrotunda</i>	E	-	Shows a preference for sand and gravel in streams and small rivers; but also may be found in coarse gravel in larger rivers	No	No; In-stream work is not proposed in perennial streams	-
Pink Mucket <sup>2</sup> <i>Lampsilis abrupta</i>	-	E	Found in mud and sand and in shallow riffles and shoals swept free of silt in major rivers and tributaries	No	No; In-stream work is not proposed in perennial streams	-
Pocketbook <sup>2</sup> <i>Lampsilis ovata</i>	E	-	Found in larger rivers with loose to firmly-packed sand, gravel-sand, or silty sand substrates	No	No; In-stream work is not proposed in perennial streams	-
Washboard <sup>2</sup> <i>Megalania nervosa</i>	E	-	Rivers, occasionally straying into large creeks, in muddy sand and cobble	No	No; In-stream work is not proposed in perennial streams	-
Sheepnose <sup>2</sup> <i>Plethobasus cyphus</i>	-	E	Rivers, creeks, and large lakes in stable sand and cobble	No	No; In-stream work is not proposed in perennial streams	-
Ohio Pigtoe <sup>2</sup> <i>Pleurobema cordatum</i>	E	-	Medium to large rivers in sand or gravel in areas with moderate flow	No	No; In-stream work is not proposed in perennial streams	-
Monkeyface <sup>2</sup> <i>Theliderma metanevra</i>	E	-	Rivers, in stable sand and cobble	No	No; In-stream work is not proposed in perennial streams	-
Pyramid Pigtoe <sup>2</sup> <i>Pleurobema rubrum</i>	E	-	A river species, very rarely in large creeks, in stable sand and cobble	No	No; In-stream work is not proposed in perennial streams	-
Snuffbox <sup>2</sup> <i>Epioblasma triquetra</i>	-	E	Sand, gravel, or cobble substrates in swift small and medium-sized rivers. Individuals are often buried deep in the sediment	No	No; In-stream work is not proposed in perennial streams	-
Salamander Mussel <sup>2</sup> <i>Simpsonia ambigua</i>	T	-	This is a species of rivers, creeks and large lakes, often under large flat rocks with its host	No	No; In-stream work is not proposed in perennial streams	-
<b>Reptiles</b>						
Timber rattlesnake <sup>2</sup> <i>Crotalus horridus</i>	E	SC	Woodlands with dry slopes and rocky outcrops, as well as sunlit gaps and deep rock crevices	No	No; known habitat type is not present within the Project area	-

Notes:

- <sup>1</sup> E = state endangered; T = state threatened; SC = state species of concern; FE = federal endangered; FT = federal threatened; FSC = federal species of concern. FC = federal candidate.
- <sup>2</sup> ODNR comments included in their response, dated March 20, 2025.
- <sup>3</sup> USFWS comments included in their response, dated March 3, 2025.

## 4.0 Conclusions

An ecological field review was conducted within the Project study area on April 8, 2025.

No streams or wetlands were identified within the Project study area. Photographs of the Project area are included in Appendix A.

The jurisdictional status of these resources are considered preliminary and should be confirmed with the USACE and state agencies through the Jurisdictional Determination process.



## 5.0 References

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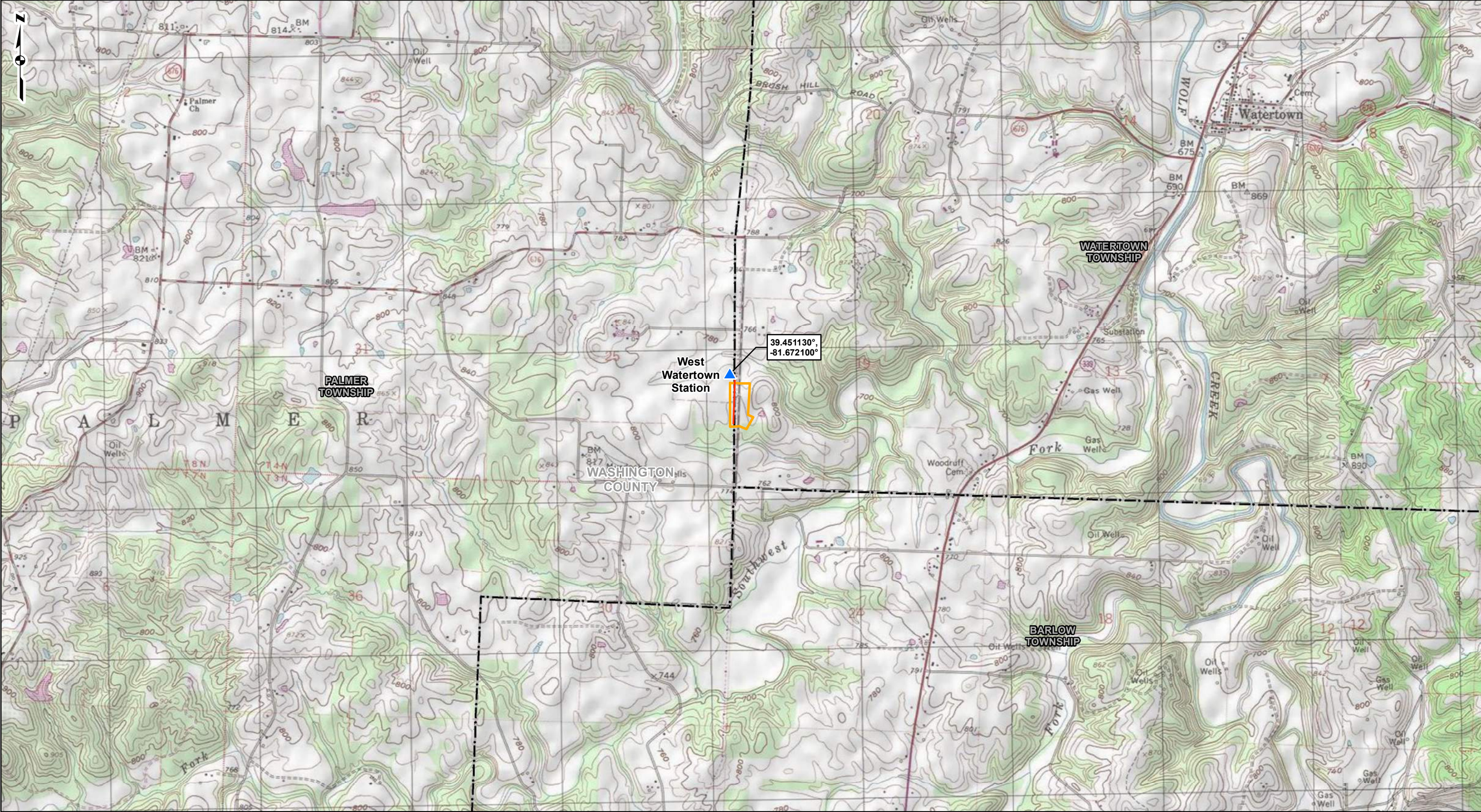
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## FIGURES





PROJECT LOCATION



WASHINGTON COUNTY, OHIO

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLES: WATERTOWN (1976) AND FLEMING (1961), OHIO, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESSED 04/2025.

LEGEND

- Proposed Station
- Proposed Transmission Line
- Environmental Study Area
- Township Boundary

0 1,000 2,000 4,000 Feet

FIGURE 1  
PROJECT LOCATION MAP



WOLF CREEK-CORNER  
138 KV TRANSMISSION LINE PROJECT  
AMERICAN ELECTRIC POWER



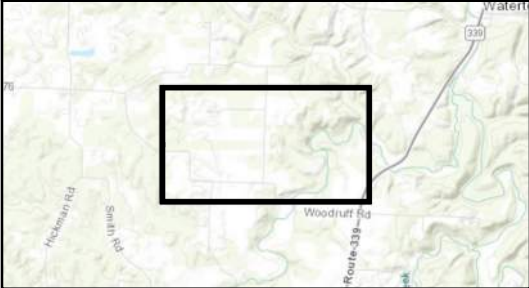
DRAWN BY: MTS  
CHECKED: EFJ

DATE: 4/16/2025  
APPROVED:









REFERENCE: AERIAL IMAGERY, OHIO STATE IMAGERY PROGRAM (OSIP), 2022. WORLD TRANSPORTATION, ESRI, ARCGIS ONLINE, ACCESSED 04/2025. NATIONAL HYDROGRAPHY DATASET (NHD) STREAMS, USGS, 2023. AQUATIC LIFE USE STREAMS, OHIO EPA, 2019. SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE, USDA/NRCS, 2024. STREAM ELIGIBILITY, OHIO EPA, 401 WATER QUALITY CERTIFICATION, 2023.

**LEGEND**

Environmental Study Area

NHD Stream

Aquatic Life Use Stream

Soil Type Boundary

Eligible

Ineligible

Possibly Eligible

OH EPA Stream Eligibility:

Eligible

Ineligible

Possibly Eligible

0

300

600

1,200

Feet

**FIGURE 3  
STREAM ELIGIBILITY MAP**

WOLF CREEK-CORNER  
138 KV TRANSMISSION LINE PROJECT  
AMERICAN ELECTRIC POWER

DRAWN BY: MTS  
CHECKED: EFJ

DATE: 4/16/2025  
APPROVED:

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## **APPENDIX A**

### **Photographic Log**



**Photograph 1. Stormwater Erosion, SWE-AGS-004 (Ditch), Facing North**



**Photograph 2. Representative upland habitat, Facing West**





**Photograph 3. Representative upland habitat, Facing North**



**Photograph 4. Representative upland habitat, Facing South**

## **APPENDIX B**

### **ODNR & USFWS Correspondence**



Department of  
Natural Resources  
ohiodnr.gov

Mike DeWine, Governor  
Jim Tressel, Lt. Governor  
Mary Mertz, Director

Office of Real Estate & Land Management

Tara Paciorek - Chief  
2045 Morse Road – E-2  
Columbus, Ohio 43229-6693

March 20, 2025

Kristen Vonderwish  
GAI Consultants  
5399 Lauby Road, Suite 120  
North Canton, Ohio 44720

**Re:** 25-0310 - West Watertown-Watertown 138kV Transmission Line

**Project:** The proposed project involves the construction of a greenfield 138kV transmission line as part of the expansion of electric transmission infrastructure and service in the Watertown area.

**Location:** The proposed project is located in Watertown Township, Washington County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state, or federal agency nor relieve the applicant of the obligation to comply with any local, state, or federal laws or regulations.

**Natural Heritage Database:** A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. Records searched date from 1980.

Please note that Ohio has not been completely surveyed, and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer

(April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at [Eileen.Wyza@dnr.ohio.gov](mailto:Eileen.Wyza@dnr.ohio.gov)).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES](#)." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species:

Federally Endangered

fanshell (*Cyprogenia stegaria*)  
sheepnose (*Plethobasus cyphyus*)  
pink mucket (*Lampsilis abrupta*)  
snuffbox (*Epioblasma triquetra*)

State Endangered

butterfly (*Ellipsaria lineolata*)  
Ohio pigtoe (*Pleurobema cordatum*)  
elephant-ear (*Elliptio crassidens crassidens*)  
pyramid pigtoe (*Pleurobema rubrum*)  
long-solid (*Fusconaia subrotunda*)  
pocketbook (*Lampsilis ovata*)  
monkeyface (*Theliderma metanevra*)  
washboard (*Megaloniaias nervosa*)

State Threatened

Salamander Mussel (*Simpsonaias ambigua*)

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2024), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above

the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the [Ohio Mussel Survey Protocol](#). If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the following listed fish species:

State Endangered

goldeye (*Hiodon alosoides*)  
pugnose minnow (*Opsopoeodus emiliae*)  
northern madtom (*Noturus stigmosus*)  
western banded killifish (*Fundulus diaphanus menona*)  
Ohio lamprey (*Ichthyomyzon bdellium*)

State Threatened

American eel (*Anguilla rostrata*)  
mountain madtom (*Noturus eleutherus*)  
blue sucker (*Cycleptus elongatus*)  
paddlefish (*Polyodon spathula*)  
channel darter (*Percina copelandi*)  
river darter (*Percina shumardi*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the timber rattlesnake (*Crotalus horridus*), a state endangered species, and a federal species of concern. The timber rattlesnake is a woodland species, utilizing dry slopes and rocky outcrops. In addition to using wooded areas, the timber rattlesnake utilizes sunlit gaps in the canopy for basking and deep rock crevices for overwintering. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys.



Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

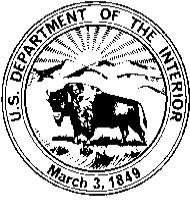
Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

**Water Resources:** The Division of Water Resources has the following comment.

If the subject project is in a floodplain regulated by the Federal Emergency Management Agency (FEMA), the [local floodplain administrator](#) should be contacted concerning the possible need for any floodplain permits or approvals. The FEMA National Flood Hazard Layer (NHFL) Viewer [website](#) can be utilized to see if the project is in a FEMA regulated floodplain. If the project is not in a FEMA regulated floodplain, then no further action is required.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew (Environmental Services Administrator) at [mike.pettegrew@dnr.ohio.gov](mailto:mike.pettegrew@dnr.ohio.gov) if you have questions about these comments or need additional information.

**Expiration:** *ODNR Environmental Reviews are typically valid for 2 years from the issuance date. If the scope of work, project area, construction limits, and/or anticipated impacts to natural resources have changed significantly from the original project submittal, then a new Environmental Review request should be submitted.*



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / FAX (614) 416-8994



March 3, 2025

Project Code: 2025-0059546

Dear Ms. Vonderwish:

The U.S. Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened, endangered, and proposed species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Federally Proposed Species: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

*Seasonal Tree Clearing for Federally Listed Bat Species:* Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats and northern long-eared bats. If Indiana bats and northern long-eared bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio ([https://epa.ohio.gov/portals/47/facts/ohio\\_wetlands.pdf](https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf)). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Environmental Services Administrator, at (614) 265-6387 or at [mike.pettegrew@dnr.ohio.gov](mailto:mike.pettegrew@dnr.ohio.gov).



If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or [ohio@fws.gov](mailto:ohio@fws.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Erin Knoll".

Erin Knoll  
Field Office Supervisor

cc: Matthew.Stooksbury@dnr.ohio.gov  
Eileen.Wyza@dnr.ohio.gov





**Phase I Cultural Resource Management Investigations for the  
.35 km (.22 mi) Wolf Creek-Corner Transmission Line Project  
in Palmer Township, Washington County, Ohio**

**Ryan J. Weller  
Scott McIntosh**

**April 21, 2025**

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**By**

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Scott McIntosh**

**Submitted By:**

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**American Electric Power  
8600 Smiths Mill Road  
New Albany, OH 43054**

**Lead Agency:**

**Ohio Power Siting Board (OPSB)**



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**Ryan J. Weller, P.I.**

**April 21, 2025**

## **Abstract**

In April 2025, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the .35 km (.22 mi) Wolf Creek-Corner Transmission Line Project in Palmer Township, Washington County, Ohio. These investigations were conducted for American Electric Power and for submission to the Ohio Power Siting Board and will be subject to Ohio History Connection review and coordination. These investigations mostly involved archaeological survey as the architectural review was deemed to have been sufficiently addressed in an immediately abutting prior survey. A cultural resources management (CRM) survey was conducted in a manner that is reflective to Section 106 of the National Historic Preservation Act to identify any sites or properties relative to this project and to evaluate their significance relative to the National Register of Historic Places (NRHP). The work involved a literature review and field investigations. These investigations did not result in the identification of any archaeological sites.

These investigations were conducted for a proposed transmission line rebuild project that is about .35 km (.22 mi) long considered as the Wolf Creek-Corner line. The survey corridor for this project accounted for a 30.5 m (100 ft) wide easement. This is located in an upland and rural setting; the project corridor is primarily contained within an agricultural field that is at the eastern edge of Palmer Township. This is located in the Southeast Quarter of Section 25 and just west of Reed Road.

The literature review that was conducted for this project did not identify any recorded cultural resources in the project or its study area. The project has not been the subject of any prior professional survey work. There are no significant cultural resources indicated in the study area.

These investigations did not result in the identification of any archaeological sites. There are no buildings involved in the project nor any significant cultural resources or landmarks. No further cultural resources management work is considered to be necessary.

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## **Introduction**

In April 2025, Weller & Associates, Inc. (Weller) conducted Phase I Cultural Resource Management Investigations for the .35 km (.22 mi) Wolf Creek-Corner transmission line Project in Palmer Township, Washington County, Ohio (Figures 1-3). The work was completed under contract with American Electric Power (AEP). These investigations were conducted for submission to the Ohio Power Siting Board (OPSB). This survey was conducted in a manner to identify any sites or properties and to evaluate them for the National Register of Historic Places (NRHP) in a manner that is reflective of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]). This report summarizes the results of the archaeological fieldwork, architectural survey results and literature review. The report format and design are similar to that established in *Archaeology Guidelines* (Ohio Historic Preservation Office [OHPO] 1994).

Ryan Weller served as the Principal Investigator and Principal Project Manager. The field crew included Owen Swigert, Brody Roberts, Lincoln Caldwell, Patrick Bennett and Mike Maiorano. The report figures were prepared by Justin Fryer.

### ***Project Description***

These investigations were conducted for a proposed transmission line rebuild project that is about .35 km (.22 mi) long considered as the Wolf Creek-Corner line. The survey corridor for this project accounted for a 30.5 m (100 ft) wide easement. This is located in an upland and rural setting; the project corridor is primarily contained within an agricultural field that is at the eastern edge of Palmer Township. This is located in the Southeast Quarter of Section 25 and just west of Reed Road.

## **Environmental Setting**

### ***Climate***

Washington County, like all of Ohio, has a continental climate, with hot and humid summers and cold winters. About 99 cm (39 in) of precipitation fall annually on the county with the average monthly precipitation about 8 cm (3.3 in). February is the driest month, while July tends to be the wettest month for Washington County [United States Department of Agriculture, Soil Conservation Service (USDA, SCS) 1977].

### ***Physiography, Relief, and Drainage***

Washington County is located within the Allegheny Plateaus physiographic region of Ohio. More specifically, the project is located on the Marietta Plateau physiographic region. This region is characterized by “dissected, high relief plateau, remnants of ancient lacustrine clay-filled Teays drainage system common, elevations 515-1400 ft” (Brockman 1998). The project is a corridor that is generally located in a setting that has rugged upland conditions and narrow stream valleys; however, the project area is in a comparably flatter upland area. The project area is drained by an unnamed



tributary of Southwest Fork, which flows into South Branch Wolf Creek. These are part of the Muskingum River watershed.

### ***Geology***

The project is situated in the Marietta Plateau. The underlying bedrock is from the Permian- and Pennsylvanian-era sedimentary rocks (Brockman 1998; USDA, SCS 1977:3). The geology of the project consists of shales, siltstones, coals, and sandstones (Brockman 1998) relative to the Allegheny, Conemaugh, and Monongahela, and Washington Series.

### ***Soils***

The project area is situated in what are mostly upland conditions. There are two specific soils involved in this project (Table 1). This is a relatively flatter setting with no deep alluvial situations or steep slopes present. This corridor involves Kansan-era terrace formations indicated by Omulga and Vincent soil series (USDA, SCS 2025).

<b>Table 1. Soils in the Project Area.</b>			
<b>Soil Name</b>	<b>Slope %</b>	<b>% in Project</b>	<b>Location</b>
Omulga silt loam	2-6	62.4	Ancient terraces
Vincent silt loam	6-12	37.6	Ancient terrace slopes

### ***Flora***

There is, or at least was, great floral diversity in Ohio. This diversity is relative to the soils and the terrain that generally includes the till plain, lake plain, terminal glacial margins, and unglaciated plateau (Forsyth 1970). Three major glacial advances, including the Kansan, Illinoisan, and Wisconsinan, have affected the landscape of Ohio. The effects of the Wisconsin glaciation are most pronounced and have affected more than half of the state (Pavey et al. 1999).

The least diverse part of Ohio extends in a belt from the northeast below the lake-affected areas through most of western Ohio (Gordon 1966). These areas are part of the late Wisconsin ground moraine and lateral end moraines. It is positioned between the lake plains region and the terminal glacial moraines. This area included broad forested areas of beech maple forests interspersed with mixed oak forests in elevated terrain or where relief is greater (Forsyth 1970; Gordon 1966). Prairie environments such as those in Wyandot and Marion County areas would contain islands of forests but were mostly expansive open terrain dominated by grasses.

The northwestern Ohio terrain is nearly flat because of ancient glacial lakes and glaciation, which affected the flora. However, the vegetation was more diverse than the till plain to the south and east because of the variety of factors that contributed to its terrain. Forests within the Black Swamp were generally comprised of elm/ash stands; however, dissected areas along drainages and drier, elevated areas from beach deposits would contain mixed forests of oak and hickory (Gordon 1966, 1969). There was little upland floral diversity in the lake plains (Black Swamp region) except for the occasional

patches of oak and hickory. Floral variety was most evident in narrow sleeves along larger stream valleys where there was relief.

The most biological diversity in Ohio is contained within the Allegheny Plateau, which encompasses the southeastern two-thirds of the state (Sheaffer and Rose 1998). Because this area is higher and has drier conditions, it is dominated by mixed oak forests. Some locations within the central part of this area contain beech and mixed mesophytic forests. There are large patches of oak and sugar maple forests to the south of the terminal moraine from Richland to Mahoning County (Gordon 1966).

Southwestern Ohio from about Cincinnati to Bellefontaine east to the Scioto River historically contained a very diverse floral landscape. This is an area where moraines from three glacial episodes are prevalent (Pavey et al. 1999). Forests in this area include elm-ash swamp, beech, oak-sugar maple, mixed mesophytic, prairie grasslands, mixed oak, and bottomland hardwoods (Core 1966; Gordon 1966, 1969). These forest types are intermingled with prairies being limited to the northern limits of this area mostly in Clark and Madison Counties.

Generally, beech forests are the most common variety through Ohio and could be found in all regions. Oak and hickory forests dominated the southeastern Ohio terrain and were found with patchy frequency across most of northern Ohio. Areas that were formerly open prairies and grasslands are in glacial areas but are still patchy. These are in the west central part of the state. Oak and sugar maple forests occur predominantly along the glacial terminal moraine. Elm-ash swamp forests are prevalent in glaciated areas including the northern and western parts of Ohio (Gordon 1966; Pavey et al. 1999).

The project area is located in western Washington County. This is an area where the uplands are considered as predominately mixed oak forestation (Gordon 1966).

### ***Fauna***

The upland forest zone offered a diversity of mammals to the prehistoric diet. This food source consisted of white-tailed deer, black bear, Eastern cottontail rabbit, opossum, a variety of squirrels, as well as other less economically important mammals. Several avian species were a part of the upland prehistoric diet as well (i.e. wild turkey, quail, ruffed grouse, passenger pigeon, etc.). The lowland zone offered significant species as well. Raccoon, beaver, and muskrat were a few of the mammals, while wood duck and wild goose were the economically important birds. Fishes and shellfish were also an integral part of the prehistoric diet. Ohio muskellunge, yellow perch, white crappie, long nose gar, channel catfish, pike, and sturgeon were several of the fish, whereas, the Ohio naiad mollusk, butterfly's shell, long solid, common bullhead, knob rockshell, and cod shell were the major varieties of shellfish. Reptiles and amphibians, such as several varieties of snakes, frogs, and turtles, were also part of the prehistoric diet (Trautman 1981; Lafferty 1979; Mahr 1949).

## Cultural Setting

The first inhabitants of Ohio were probably unable to enter this land until the ice sheets of the Wisconsin glacier melted around 14,000 B.C. Paleoindian sites are considered rare due to the age of the sites and the effects of land altering activities such as erosion. Such sites were mostly used temporarily and thus lack the accumulation of human occupational deposits that would have been created by frequent visitation. Paleoindian artifact assemblages are characteristic of transient hunter-gatherer foraging activity and subsistence patterns. In Ohio, major Paleoindian sites have been documented along large river systems and near flint outcrops in the Unglaciaded Plateau (Cunningham 1973). Otherwise, Paleoindian sites in the glaciaded portions of Ohio are encountered infrequently and are usually represented by isolated finds or open-air scatters.

The Paleoindian period is characterized by tool kits and gear utilized in hunting Late Pleistocene megafauna and other herding animals including but not limited to short-faced bear, barren ground caribou, flat-headed peccary, bison, mastodon, giant beaver (Bamforth 1988; Brose 1994; McDonald 1994). Groups have been depicted as being mobile and nomadic (Tankersley 1989); artifacts include projectile points, multi-purpose unifacial tools, burins, gravers, and spokeshaves (Tankersley 1994). The most diagnostic artifacts associated with this period are fluted points that exhibit a groove or channel positioned at the base to facilitate hafting. The projectiles dating from the late Paleoindian period generally lack this trait; however, the lance form of the blade is retained and is often distinctive from the following Early Archaic period (Justice 1987).

The Archaic period has been broken down into three sub-categories, including the Early, Middle, and Late Archaic. During the Early Archaic period (ca. 10,000-8000 B.P.), the environment was becoming increasingly arid as indicated by the canopy (Shane 1987). This period of dryness allowed for the exploitation of areas that were previously inaccessible or undesirable. The Early Archaic period does not diverge greatly from the Paleoindian regarding the type of settlement. Societies still appear to be largely mobile with reliance on herding animals (Fitting 1963). For these reasons, Early Archaic artifacts can be encountered in nearly all settings throughout Ohio. Tool diversity increased at this time including hafted knives that are often re-sharpened by the process of beveling the utilized blade edge and intense basal grinding (Justice 1987). There is a basic transition from lance-shaped points to those with blades that are triangular. Notching becomes a common hafting trait. Another characteristic trait occurring almost exclusively in the Early and Middle Archaic periods is basal bifurcation and large blade serrations. Tool forms begin to vary more and may be a reflection of differential resource exploitation. Finished tools from this period can include bifacial knives, points, drills/perforators, utilized flakes, and scrapers.

The Middle Archaic period (8000-6000 B.P.) is poorly known or understood in archaeological contexts within Ohio. Some (e.g., Justice 1987) regard small bifurcate points as being indicative of this period. Ground stone artifacts become more prevalent at this time. Other hafted bifaces exhibit large side notches with squared bases, but this same trait can extend back to the Paleoindian period. The climate at this time is much like that of the modern era. Middle Archaic period subsistence tended to be associated with small patch foraging that involved a consistent need for mobility with a shift

towards stream valleys (Stafford 1994). Sites encountered from this time period throughout most of Ohio tend to be lithic scatters or isolated finds. The initial appearance of regional traits may be apparent at this time.

The Late Archaic period in Ohio (ca 6000-3000 B.P.) diverges from the previous periods in many ways. Preferred locations within a regional setting appear to have been repeatedly occupied. The more intensive and repeated occupations often resulted in the creation of greater social and material culture complexity. The environment at this time is warmer and drier. Most elevated landforms in northeastern Ohio have yielded Archaic artifacts (Prufer and Long 1986: 7), and the same can be stated for the remainder of Ohio.

Various artifacts are diagnostic of the Late Archaic period. Often, burial goods provide evidence that there was some long-distance movement of materials, while lithic materials used in utilitarian assemblages are often from a local chert outcrop. There is increased variation in projectile point styles that may reflect regionalism. Slate was often used in the production of ornamental artifacts. Ground and polished stone artifacts reached a high level of development. This is evident in such artifacts as grooved axes, celts, bannerstones, and other slate artifacts.

It is during the Terminal Archaic period (ca 3500-2500 B.P.) that extensive and deep burials are encountered. Cultural regionalism within Ohio is evident in the presence of Crab Orchard (southwest), Glacial Kame (northern), and Meadowood (central to Northeastern). Along the Ohio River, intensive occupations have been placed within the Riverton phase. Pottery makes its first appearance during the Terminal Late Archaic.

The Early Woodland period (ca 3000-2100 B.P.) in Ohio is often associated with the Adena culture and the early mound builders (Dragoo 1976). Early and comparably simple geometric earthworks first appear with mounds more spread across the landscape. Pottery at this time is thick and tempered with grit, grog, or limestone; however, it becomes noticeably thinner towards the end of the period. There is increased emphasis on gathered plant resources, including maygrass, chenopodium, sunflower, and squash. Habitation sites have been documented that include structural evidence. Houses that were constructed during this period were circular, having a diameter of up to 18.3 m (Webb and Baby 1963) and often with paired posts (Cramer 1989). Artifacts dating from this period include leaf-shaped blades with parallel to lobate hafting elements, drilled slate pieces, ground stone, thick pottery, and increased use of copper. Early Woodland artifacts can be recovered from every region of Ohio.

The Middle Woodland period (ca 2200-1600 B.P.) is often considered to be equivalent with the Hopewell culture. The largest earthworks in Ohio date from this period. There is dramatic increase in the appearance of exotic materials that appear most often in association with earthworks and burials. Artifacts representative of this period include thinner, grit-tempered pottery, dart-sized projectile points (Lowe Flared, Steuben, Snyders, and Chesser) [Justice 1987], exotic materials (mica, obsidian, and marine shell, etc.). The points are often thin, bifacially beveled, and have flat cross sections. There seems to have been a marked increase in the population as well as increased levels of social organization. Middle Woodland sites seem to reflect a seasonal exploitation of the environment. There is a notable increase in the amount of Eastern Agricultural Complex

plant cultigens, including chenopodium, knotweed, sumpweed, and little barley. This seasonal exploitation may have followed a scheduled resource extraction year in which the populations moved camp several times per year, stopping at known resource extraction loci. Middle Woodland land use appears to center on the regions surrounding earthworks (Dancey 1992; Pacheco 1996); however, there is evidence of repeated occupation away from earthworks (Weller 2005a). Household structures at this time vary with many of them being squares with rounded corners (Weller 2005a). Exotic goods are often attributed to funerary activities associated with mounds and earthworks. Utilitarian items are more frequently encountered outside of funerary/ritual contexts. The artifact most diagnostic of this period is the bladelet, a prismatic and thin razor-like tool, and bladelet cores. Middle Woodland remains are more commonly recovered from central Ohio south and lacking from most areas in the northern and southeastern part of the state.

The Late Woodland period (ca A.D. 400-900) is distinct from the previous period in several ways. There appears to be a population increase and a more noticeable aggregation of groups into formative villages. The villages are often positioned along large streams, on terraces, and were likely seasonally occupied (Cowan 1987). This increased sedentism was due in part to a greater reliance on horticultural garden plots, much more so than in the preceding Middle Woodland period. The early Late Woodland groups were growing a wide variety of crop plants that are collectively referred to as the Eastern Agricultural Complex. These crops included maygrass, sunflower, and domesticated forms of goosefoot and sumpweed. This starch and protein diet was supplemented with wild plants and animals. Circa A.D. 800 to 1000, populations adopted maize agriculture, and around this same time, shell-tempered ceramics appear. Other technological innovations and changes during this period included the bow and arrow and changes in ceramic vessel forms.

The Late Prehistoric period (ca A.D. 1000-1550) is distinctive from former periods. The Cole complex (ca A.D. 1000-1300) has been identified in central and south central Ohio. Sites that have been used to define the Cole complex include the W.S. Cole (33DL11), Ufferman (33DL12), and Decco (33DL28) sites along the Olentangy; the Zencor Village site, located along the Scioto River in southern Franklin County; and the Voss Mound site (33FR52), located along the Big Darby Creek in southwestern Franklin County. It has been suggested that this cultural manifestation developed out of the local Middle Woodland cultures and may have lasted to be contemporaneous with the Late Prehistoric period (Barkes 1982; Baby and Potter 1965; Potter 1966). Cole is a poorly defined cultural complex as its attributes are a piecemeal collection gathered from various sites. Some have suggested that it may be associated with the Fort Ancient period (Pratt and Bush 1981). Artifacts recovered from sites considered as Cole include plain and cordmarked pottery, triangular points, Raccoon Notched points, chipped slate discs, rectangular gorgets, and chipped stone celts. The vessels often have a globular form with highly variable attributes and rim treatment. There have been few structures encountered from this period, but those that have are typically rounded or circular (Pratt and Bush 1981; Weller 2005b).

Monongahela phase sites date to the Late Prehistoric to Contact period in eastern Ohio. Monongahela sites are typically located on high bottomlands near major streams, on saddles between hills, and on hilltops, sometimes a considerable distance from water

sources. Most of these sites possessed an oval palisade, which surrounded circular house patterns. Burials of adults are usually flexed and burial goods are typically ornamental. A large variety of stone and bone tools are found associated with Monongahela sites. Monongahela pottery typically is plain or cordmarked with a rounded base and a gradually in-sloping shoulder area. Few Euro-American trade items have been found at Monongahela sites (Drooker 1997).

### ***Protohistoric to Settlement***

By the mid-1600s, French explorers traveled through the Ohio country as trappers, traders, and missionaries. They kept journals about their encounters and details of their travels. These journals are often the only resource historians have regarding the early occupants of seventeenth century Ohio. The earliest village encountered by the explorers in 1652 was a Tionontati village located along the banks of Lake Erie and the Maumee River. Around 1670, it is known that three Shawnee villages were located along the confluence of the Ohio River and the Little Miami River. Because of the Iroquois Wars, which continued from 1641-1701, explorers did not spend much time in the Ohio region, and little else is known about the natives of Ohio during the 1600s. Although the Native American tribes of Ohio may have been affected by the outcome of the Iroquois Wars, no battles occurred in Ohio (Tanner 1987).

French explorers traveled extensively through the Ohio region from 1720-1761. During these expeditions, the locations of many Native American villages were documented. In 1751, a Delaware village known as Maguck existed near present-day Chillicothe. In 1758, a Shawnee town known as 'Lower Shawnee 2' existed at the same location. The French also documented the locations of trading posts and forts, which were typically established along the banks of Lake Erie or the Ohio River (Tanner 1987).

While the French were establishing a claim to the Ohio country, many Native Americans were also entering new claims to the region. The Shawnee were being forced out of Pennsylvania because of English settlement along the eastern coast. The Shawnee created a new headquarters at Shawnee Town, which was located at the mouth of the Scioto River. This headquarters served as a way to pull together many of the tribes which had been dispersed because of the Iroquois Wars (Tanner 1987).

Warfare was bound to break out as the British also began to stake claims in the Ohio region by the mid-1700s. The French and Indian War (1754-1760) affected many Ohio Native Americans; however, no battles were recorded in Ohio (Tanner 1987). Although the French and Indian War ended in 1760, the Native Americans continued to fight against the British explorers. In 1764, Colonel Henry Bouquet led a British troop from Fort Pitt, Pennsylvania to near Zanesville, Ohio.

In 1763, the Seven Years' War fought between France and Britain, also known as the French and Indian War ended with The Treaty of Paris. In this Peace of Paris, the French ceded their claims in the entire Ohio region to the British. When the American Revolution ended with the Second Treaty of Paris in 1783, the Americans gained the entire Ohio region from the British; however, they designated Ohio as Indian Territory. Native Americans were not to move south of the Ohio River, but Americans were

encouraged to head west into the newly acquired land to occupy and govern it (Tanner 1987).

By 1783, Native Americans had established fairly distinct boundaries throughout Ohio. The Shawnee tribes generally occupied southwest Ohio, while the Delaware tribes stayed in the eastern half of the state. Wyandot tribes were located in north-central Ohio, and Ottawa tribes were restricted to northeast Ohio. There was also a small band of Mingo tribes in eastern Ohio along the Ohio River, and there was a band of Mississauga tribes in northeastern Ohio along Lake Erie. The Shawnee people had several villages within Ross County along the Scioto River (Tanner 1987). Although warfare between tribes continued, it was not as intense as it had been in previous years. Conflicts were contained because boundaries and provisions had been created by earlier treaties.

In 1795, the Treaty of Greenville was signed as a result of the American forces defeat of the Native American forces at the Battle of Fallen Timbers. This allocated the northern portion of Ohio to the Native Americans, while the southern portion was opened for Euro-American settlement. Although most of the battles which led up to this treaty did not occur in Ohio, the outcome resulted in dramatic fluctuations in the Ohio region. The Greenville Treaty line was established, confining all Ohio Native Americans to northern Ohio, west of the Tuscarawas River (Tanner 1987).

Ohio Native Americans were again involved with the Americans and the British in the War of 1812. Unlike the previous wars, many battles were fought in the Ohio country during the War of 1812. By 1815, peace treaties began to be established between the Americans, British, and Native Americans. The Native Americans lost more and more of their territory in Ohio. By 1830, the Shawnee, Ottawa, Wyandot, and Seneca were the only tribes remaining in Ohio. These tribes were contained on reservations in northwest Ohio. By the middle 1800s, the last of the Ohio Native Americans signed treaties and were removed from the Ohio region.

### ***Washington County History***

In 1788, a group of Ohio Company explorers, surveyors, and settlers, including 48 men led by General Rufus Putnam, founded Marietta (Andrews 1902; Howe 1888; Williams Bros. 1881). This was the first, permanent American settlement in the Northwest Territory. Major John Doughty had built Fort Harmer three years previous but it had been abandoned and would be rebuilt and reoccupied. Campus Martius, later to be called Marietta, was that place of entry and settlement (Andrews 1902). These men had arrived in April; Governor Arthur St. Clair followed that July to begin his governance of the Northwest Territory from this preliminary seat in the forests of Ohio (Williams Bros. 1881). Upon Governor St. Clair's arrival, he created Washington County as a subdivision of the Ohio Territory. At that time, the county was nearly half the size of the current State. Most of the early history of Washington County however, contained itself to the present bounds and the region surrounding Marietta (Andrews 1902; Howe 1888; Williams Bros. 1881). Due to the dispute with Northwestern Indian tribes over the ownership of Ohio lands, the settlements were heavily fortified or had forts nearby (Fort Harmer, Campus Martius, Farmes Castle, Fort Freye, and Fort Tyler). Settlers followed peace into the county (Andrews 1902; Howe 1888; Williams Bros. 1881).

With the considerable organization of the Ohio Company, growth and progress was almost immediate in Washington County. There was a school in session the first year of occupation. Major Anselm Tupper taught it (Andrews 1902). Once relative peace came to the region and civil growth could take place outside the blockhouses, real growth began. The Congregational Church had organized back east, before settlement or even migration. Their own building, The Two Horn Church, was the oldest church in Ohio (Howe 1888). Within a decade, a formal academy was in operation. Muskingum Academy was both an educational and a religious edifice and continued as such many years. Washington County also boasts the state's first library, kept at the house of Isaac Pierce. These were books belonging to General Israel Putnam which were removed to Ohio after his death in 1795, by his son Colonel Israel Putnam. As such, it was known first as the Putnam Library, but later as the Belpre Library or the Belpre Farmer's Library.

Early settlers relied heavily on agriculture for subsistence and cultivated the broad valley floors of the Ohio and Muskingum Rivers. Fruit farming was important in Marietta with peaches being the most popular. In 1791, Captain Jonathan Devol built a floating mill, which went up and down the Ohio River servicing local farmers. After 1812, steamboats became the primary mode of transportation along the Ohio River (Williams Bros. 1881). In 1823, the Marietta Steam Boat Company was established on the Little Muskingum River. In 1837, the Muskingum River improvement led to the construction of a series of dams and locks along the Muskingum River to improve canal and steamboat travel. As river transportation improved, new markets opened for agricultural products allowing surplus flour, meal, pork, beef, and wool to be sold for additional economic profit (Andrews 1902; Williams Bros. 1881).

The first railroad constructed in Washington County was the Baltimore and Ohio Railroad built in 1857 (Andrews 1902). This connected Marietta with Athens and Cincinnati, which led to an increase in industries such as agriculture, oil, clay, shale, and sandstone. Oil was discovered at Duck Creek in the 1860's leading to a peak in petroleum production between 1890 and 1910. After World War I agriculture declined in Washington County and other industries were developed such as coal, forestry, and oil (Wright 1953).

As mentioned, Marietta was the first permanent and continually occupied settlement in Ohio; moreover, within the Northwest Territory. As such, it is no surprise that this town is and always was the county seat of Washington County. Upon entering this area, the Ohio Company men discovered that the Muskingum River valley and its surrounding banks and ridge tops were teeming with prehistoric earthworks testifying to the extinct civilization who previously had built and lived in this same location. The directors of the Ohio Company admired these sites and provided for their protection and preservation. The act creating the Town of Marietta came several years later in 1801. Dudley Woodbridge was the first storeowner in the Northwest Territory, having located on the corner of Muskingum and Ohio Streets. Many of the later stores lined the river in Marietta and Harmer. The location of Marietta on two navigable rivers made the community a center for commerce and industry early in its development. Shipbuilding



was one of the first industries in Marietta and this drove the city to become an important early manufacturing and transportation hub (Andrews 1902).

Aside from Marietta, Belpre is the only other incorporated city in the county. There are five incorporated towns: Beverly, Lowell, Lower Salem, Macksburg, and Matamoras. It is made up of 22 townships, and it contains 15 unincorporated villages. Most of the growth, and therefore, most of the notable history in the county is contained within Marietta and to a lesser degree Belpre.

### ***Palmer Township History***

Palmer Township, Washington County was created in 1851. In the erection of Noble County, Washington and neighboring Morgan County lost land. In compensation, the borders of the parent counties were redrawn with a sense of fairness prevailing. A large part of Roxbury Township, Washington County was ceded west to Morgan. Those living in the remnant of Roxbury, along with portions of Watertown (formerly Wooster), Wesley, and Barlow petitioned Washington County to consolidate their land into a new township. So it was and the new township took on the surname of one of the first settling and influential families in the region (Andrews 1902; Marietta Daily Times 1938; William Bros 1881). As such, any primary resource considered for research written before 1851, must account for the standing of townships at the time.

Growth in Palmer Township was very slow, and this fact is kindly mentioned in the 1881 record. Christopher Malster was the opening settler in 1796. He and his family were the only residents in this region for six years until Joseph Palmer and his family joined them in March of 1802. Palmer functioned as the first justice of the peace for the meagerly populated district and it is because of this local service and fame that the present township bears his name. Jason Rice and family settled just on the heels of the Palmers. John Danley settled in 1803, Cornelius Gard in 1804, no one in 1805, Benjamin M. Brown and Henry Comes in 1806. This shows that within the first decade of its earliest occupancy, only six families resided within the present circumference of the township. Then, settlement cooled off for seven years until Joseph Atkinson came in 1813 (Andrews 1902; Marietta Daily Times 1938; William Bros 1881).

Perhaps the reason for its slow development is that the first settlers confined themselves to the ridge tops rather than settling in the few flat washes of the West Branch Wolf Creek. There is very little of this watercourse that runs through Palmer Township, but in 1815, Timothy Hiett and Samuel Brown built mills along this bit. Brown also ran a store at his mill (which was also his residence). In 1821, he became the area's first postmaster, operating from the same place and as such, took the name Brown's Mills (William Bros 1881).

Russell Darrow taught the first school in 1805 for the Palmer children and one other, as they were the only student aged portion of the tiny population at the time. Freewill Baptist camp meetings were the first religious ventures in the area, but no society was formed or congregation established. The Methodists had that responsibility, fulfilled in 1807 building a church in 1837 (Andrews 1902; William Bros 1881).

## Research Design

The purpose of a Phase I survey is to locate and identify cultural resources that will be affected by the planned transmission line project. This includes archaeological deposits as well as architectural properties that are older than 50 years. Once these resources are identified and sampled, they are evaluated for their eligibility or potential eligibility to the National Register of Historic Places (NRHP). The literature review aspect of these investigations is directed to answer or address the following questions:

- 1) Did the literature review reveal anything that suggests the project had been previously surveyed and what is the relationship of previously recorded properties to the project?
- 2) Are cultural resources likely to be identified in the project?

### *Archaeological Field Methods*

Phase I surveys that are conducted in Ohio typically involve any one or combination of four methods. These included shovel test unit excavation, shovel probes, surface collection, and visual inspection. These methods are described in greater detail in the following text.

*Shovel test unit excavation.* Shovel test units were excavated in all the locations that were located within the project corridor where surface visibility was insufficient for surface collection. This can include fallow conditions, manicured lawn, corn stubble fields, and possibly soybean stubble fields. These units were spaced at about 15 m intervals (50') and generally located on the centerline of the project corridor. Units are manually excavated until they extend 5 cm into the subsoil. Individual shovel test units were documented regarding their depth, content, and color (Munsell). Wherever sites were encountered, Munsell color readings were taken per shovel test unit. All of the undisturbed soil matrices from shovel test units were screened through .6 cm hardware mesh. Additional or radial shovel test units will be excavated in areas where cultural remains are identified. These will be placed at 7.5 m intervals and within the project corridor.

*Shovel Probe.* This method was used to delineate areas of disturbance. A shovel test probe measured 30 cm square and was excavated in areas where surface visibility is lacking, but disturbance is not evident on the surface. If natural soils are identified, the probe is expanded and sampled like a shovel test unit.

*Surface Collection.* This method was used in situations where bare ground visibility was sufficient for sampling. This can include any tilled fields, occasional soybean stubble or mature soybean situations, and standing corn. Situations where repeated no-till agriculture is practiced typically precludes the opportunity to conduct surface collection methods. It is typically necessary for conditions to offer a minimum of 50 percent bare ground visibility. Pedestrian transects were spaced at 5 m intervals. Artifact locations were plotted using a Trimble GeoXT global positioning system.

*Visual inspection.* Locations where cultural resources were not expected, such as disturbed areas, steeply sloped areas, and low/wet areas were walked over and visually inspected. This method was used to verify the absence or likelihood of any cultural resources being located in these areas. This method was also utilized to document the general terrain and the surrounding area.

The application of the resulting field survey methods was documented in field notes, field maps, and permit maps.

### ***Curation***

There were no archaeological sites identified during these investigations. Notes and maps affiliated with this project will be maintained within Weller & Associates, Inc. files.

### ***Architectural Field Methods***

This survey was conducted following the guidelines established in Archeology and Preservation: Secretary of the Interior's Standards and Guidelines (National Park Service 1983) and Guidelines for Local Surveys: A Basis for Preservation Planning. National Register Bulletin No. 24 (National Park Service 1997), and *Guidelines for Conducting History/Architecture Surveys in Ohio* (Ohio SHPO, 2014). When properties are identified, they are subjected to the guidelines outlined in National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation (National Park Service 1996).

There are four criteria for eligibility to be listed in the National Register of Historic Places (NRHP). Only one of these criteria must be met to be considered eligible for listing; however, oftentimes more than one of the criteria is met. The criteria for significance include:

- A. Association with historic events or patterns of events;
- B. Association with persons important to our past;
- C. Exceptional or important architectural characteristics; and/or
- D. Data potential.

Architectural properties typically qualify under Criteria A, B, or C. Criterion D is typically reserved for archaeological sites.

In addition to meeting at least one of the established criteria, the appropriate integrity must also be retained by the resource. There must be integrity of location, design, workmanship, setting, materials, feeling, and association.

Prior to commencing fieldwork, a literature review was conducted to determine if any previously recorded architectural properties, NRHP properties, or Ohio Genealogical Society cemeteries were present within the project survey area. Historic maps were also reviewed to aid in guiding the fieldwork and detecting the possible presence of

significant within the survey area. Background research was also conducted in order to establish a historic context of the region. The context was compiled by utilizing materials from the SHPO, archival materials at the respective county courthouses, local libraries, and several online resources. The establishment of the historic context helped to guide the interpretation of the field survey results.

The approach to the field survey accounted for the decrease in effects to historic properties as the distance from the project area increased. The survey included a systematic assessment to identify all resources 50 years of age or older within 305 m (1,000 ft) of the project area. In addition to this systematic assessment, the survey extended to resources located beyond 305 m (1,000 ft) that exhibited potential eligibility for inclusion in the NRHP. Some areas within the 305 m (1,000 ft) will be blocked from having a direct line-of-sight to the proposed project by topography and forested areas. Some areas within the 305 m (1,000 ft) may have been recently surveyed and the current survey may not include these areas. The areas that did not have a direct line-of-sight to the project were visually verified in the field and the survey did not include all of these areas. The approach was to identify those properties with NRHP potential, followed by a more intensive documentation and evaluation of those potentially eligible aboveground resources. The comprehensive survey involved recording of each property with potential historic significance to a baseline level of documentation.

Weller focused on the ground plan, the height, and the roof configuration of each structure, noting all visible materials, appendages, extensions, or other alterations. Housing types and structural details within the report and utilized on Ohio Historic Inventory (OHI) forms follow accepted professional terminology and that used by architectural historians McAlester (2013), Harris (2006), and Gordon (1992). Weller then supplemented the field survey data with an examination of available tax records, aerial photographs, and cartographic sources.

### ***Definitions***

Within this report, an *architectural resource* is defined as an aboveground building or structure that is 50 years of age or older. A *historic property* is defined as a building, structure, object, or site that is listed in, or considered eligible for listing in, the NRHP. An *effect* is defined as an activity associated with the project that alters a characteristic of a historic property that qualified it for inclusion in the NRHP.

### **Literature Review**

The literature review study area is defined as a 305 m (1,000 ft) radius centered on the project area (Figure 2). In conducting the literature review, the following resources were consulted at OHPO and the State Library of Ohio:

- 1) *Archeological Atlas of Ohio* (Mills 1914);
- 2) OHPO United States Geological Survey (USGS) 7.5' series topographic maps;
- 3) Ohio Archaeological Inventory (OAI) files;
- 4) Ohio Historic Inventory (OHI) files;
- 5) National Register of Historic Places (NRHP) files;

- 6) Determinations of Eligibility (DOE) files;
- 7) OHPO CRM/contract archaeology files; and
- 8) Washington County atlases, histories, historic USGS 15' series topographic map(s), and current USGS 7.5' series topographic map(s);
- 9) Online Genealogical and Cemetery Records.

A review of *Archeological Atlas of Ohio* (Mills 1914) was conducted and there are no sites recorded near the project area.

The OHPO topographic maps indicated that there are no archaeological sites recorded in the project or its study area (Figures 2 and 3).

A review of the OHI files identified no previously recorded resources in or near the study area (Figures 2 and 3).

#### ***OGS Cemeteries Located in the Study Area***

A review of SHPO contract files indicated no cemeteries in the vicinity of this project.

#### ***National Register Listed Properties and DOEs Located in the Study Area***

A review of the NRHP and DOE files did not identify any relative resources in the project or its study area.

#### ***CRM Surveys Conducted in the Study Area***

There have not been any prior surveys that overlap with this project area.

#### ***Cartographic and Historic Atlas Review of the Study Area***

Cartographic/atlas resources were reviewed for the project. The *Map of Washington County, Ohio* does not indicate any buildings in this area (Lorey 1858; Figure 4). The *Atlas of Washington County, Ohio* indicates that there are no buildings in or near the project area (Lake 1875; Figure 4). The USGS 1902 *Parkersburg, West Virginia 15 Minute Series (Topographic)* map indicates that the project corridor is in rural upland conditions with a few buildings located near the project area (Figure 4). The USGS 1976 *Watertown, Ohio 7.5 Minute Series (Topographic)* map demonstrates no buildings in the project or near vicinity (Figure 2).

#### ***Literature Review Summary and Expectations***

The project is a small corridor that is located in a non-descript setting in what is mostly upland situations in a rural and remote part of Washington County. The literature review did not identify any archaeological sites in the study area and there are no buildings noted in the area. Based on the literature review, it seems unlikely that any dense archaeological deposits would be identified.

## **Archaeological Fieldwork Results**

The archaeological field investigations for this project were conducted on April 16, 2025 (Figures 5-8). The weather was not a factor in the completion of the work as the Fahrenheit temperatures were in the middle 50s and it was dry. The fieldwork involved subsurface testing and visual inspection. The project is a basically a north-south oriented corridor that is located in rural and mostly upland conditions in the central part of Washington County. There were no prohibitive conditions encountered regarding the archaeological fieldwork where the testing would have been precluded. These investigations did not result in the identification of any archaeological sites.

The project is for a transmission line rebuild project that is located in an upland setting. This is a north-south easement that is just west of Reed Road. At the time of survey, this area was contained in an agricultural field that had dense ground cover. Subsurface methods of archaeological sampling were deemed appropriate.

Subsurface methods of testing accounted for the archaeological sampling methods and were conducted throughout this small project area (Figure 5-7). Typically, shovel test units were excavated on either side of the plotted centerline and at 15 m intervals (about 50 ft). There were 48 shovel test units excavated throughout this area. The topsoil was light yellowish brown (10YR6/4) silt loam and the underlying subsoil was reddish yellow (7.5YR6/6) silt loam (Figure 8). The topsoil was firm and relatively dry. The interface between these two levels was clear and abrupt which is consistent with plowed conditions. The topsoil depths are consistent with what would be regarded as a typical plowzone, averaging about 30 cm deep. There were no archaeological sites identified during these investigations.

## **Architectural Survey Results**

There are no architectural resources, nor any historic properties located in the study area. No further architectural work is considered necessary.

## **APE Definition and NRHP Determination**

The APE is a term that must be applied on an individual project basis. The nature of the project is considered in determining the APE. This may include areas that are off the property or outside of the actual project's boundaries to account for possible visual impacts. Archaeological investigations are typically limited to the footprint of the construction activity and a limited area around it if deemed appropriate and depending upon the type of construction. The project plans involve the greenfield installation of a .35 km (.22 mi) long transmission line with a mostly 30.5 m (100 ft) wide easement. The archaeological APE for this project is limited to the footprint of the project's easement and possible construction limits.

There were no archaeological sites identified during these investigations. There are no architectural resources involved as none are within the study area. There were no significant cultural resources identified during these investigations.

## **Recommendations**

In April 2025, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the .35 km (.22 mi) Wolf Creek-Corner Transmission Line Project in Palmer Township, Washington County, Ohio. These investigations were mostly oriented with the archaeological component of the work. There are no buildings involved in the current body of work or its study area. These investigations did not result in the identification of any archaeological sites. No further cultural resources management work is considered to be necessary for this project.

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## Figures



Figure 1. Political map of Ohio showing the approximate location of the project.



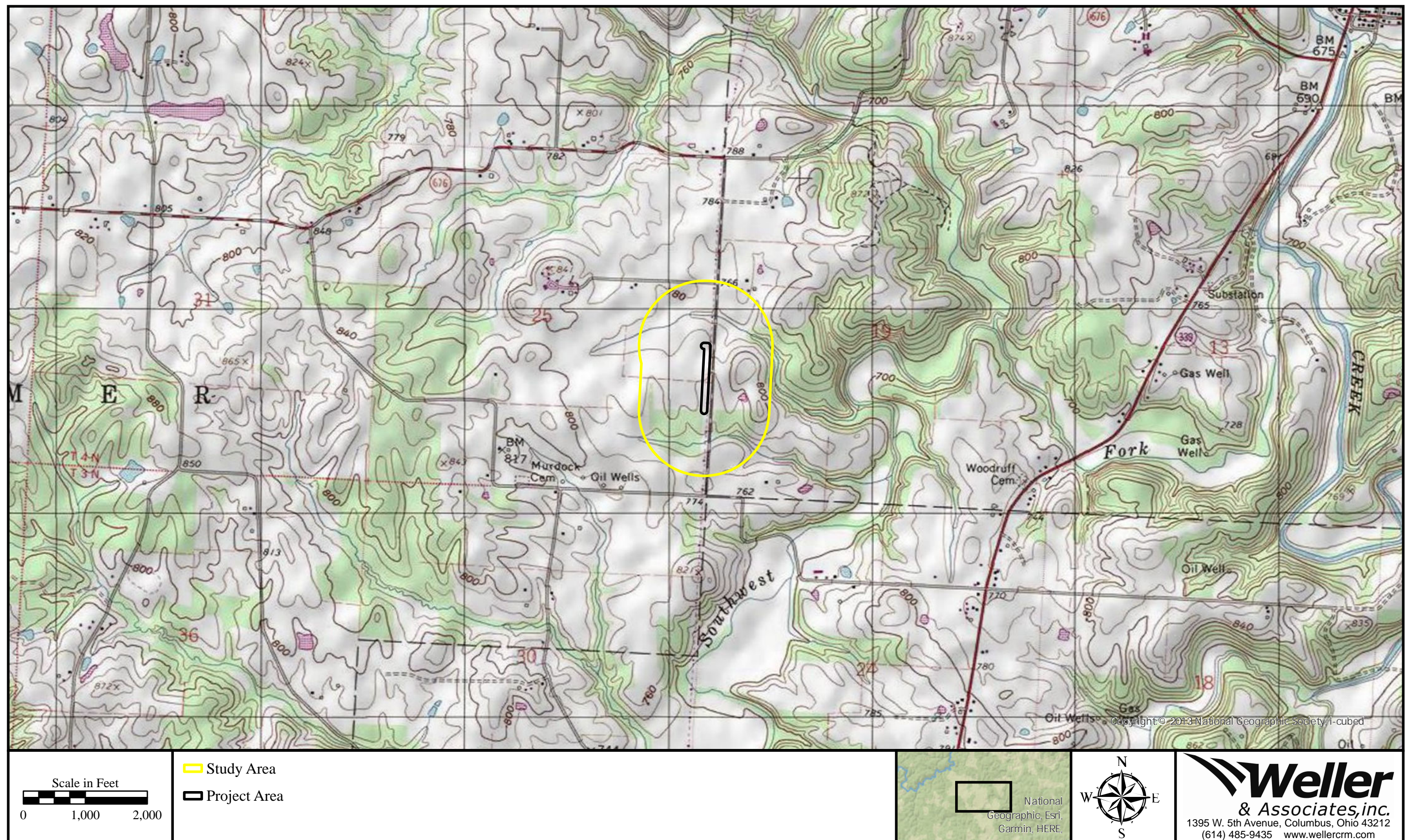


Figure 2. Portion of the USGS 1976 Watertown, Ohio 7.5 Minute Series (Topographic) map indicating the location of the project and absence of previously recorded resources in the study area.



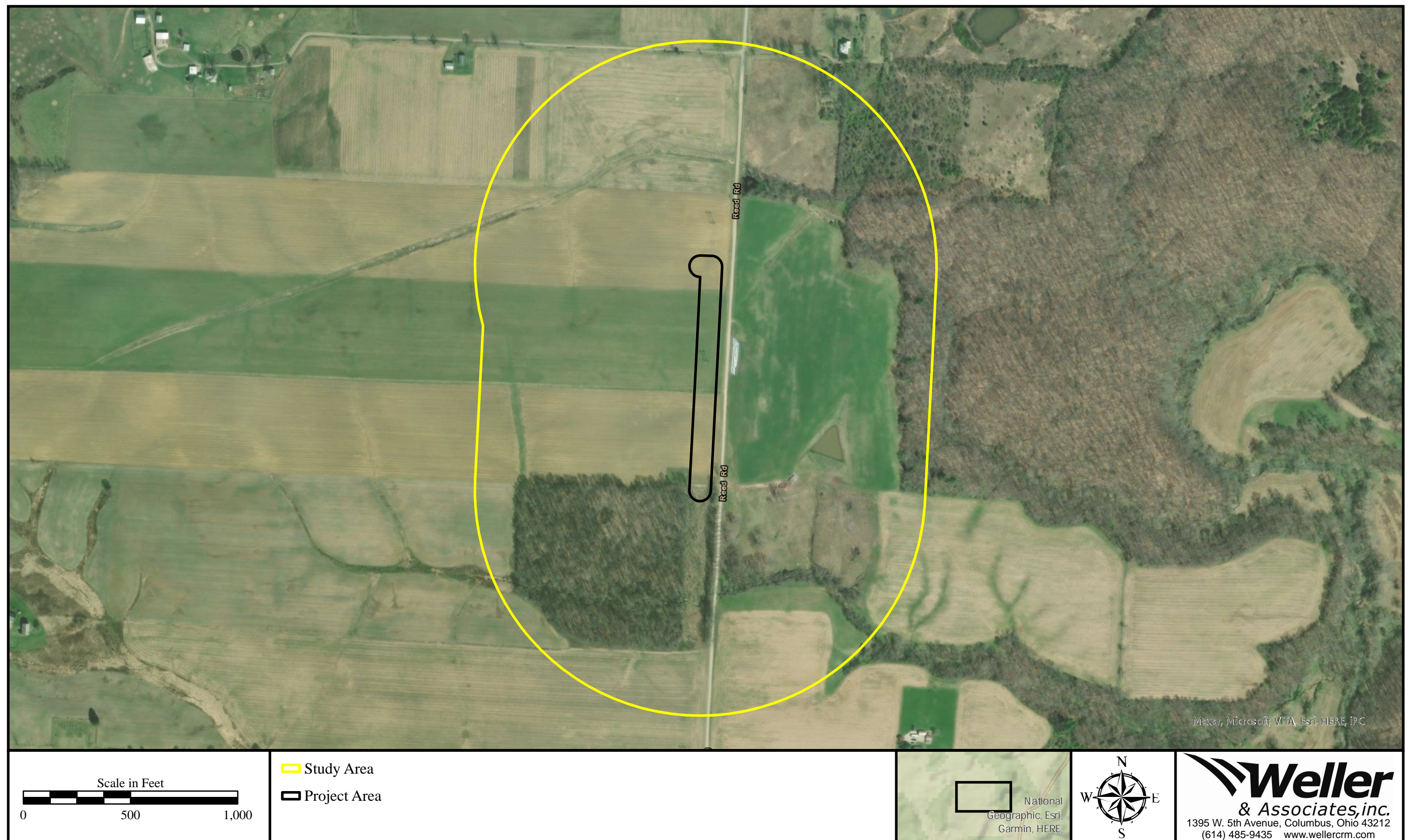


Figure 3. Aerial map indicating the location of the project and absence of previously recorded resources in the study area.



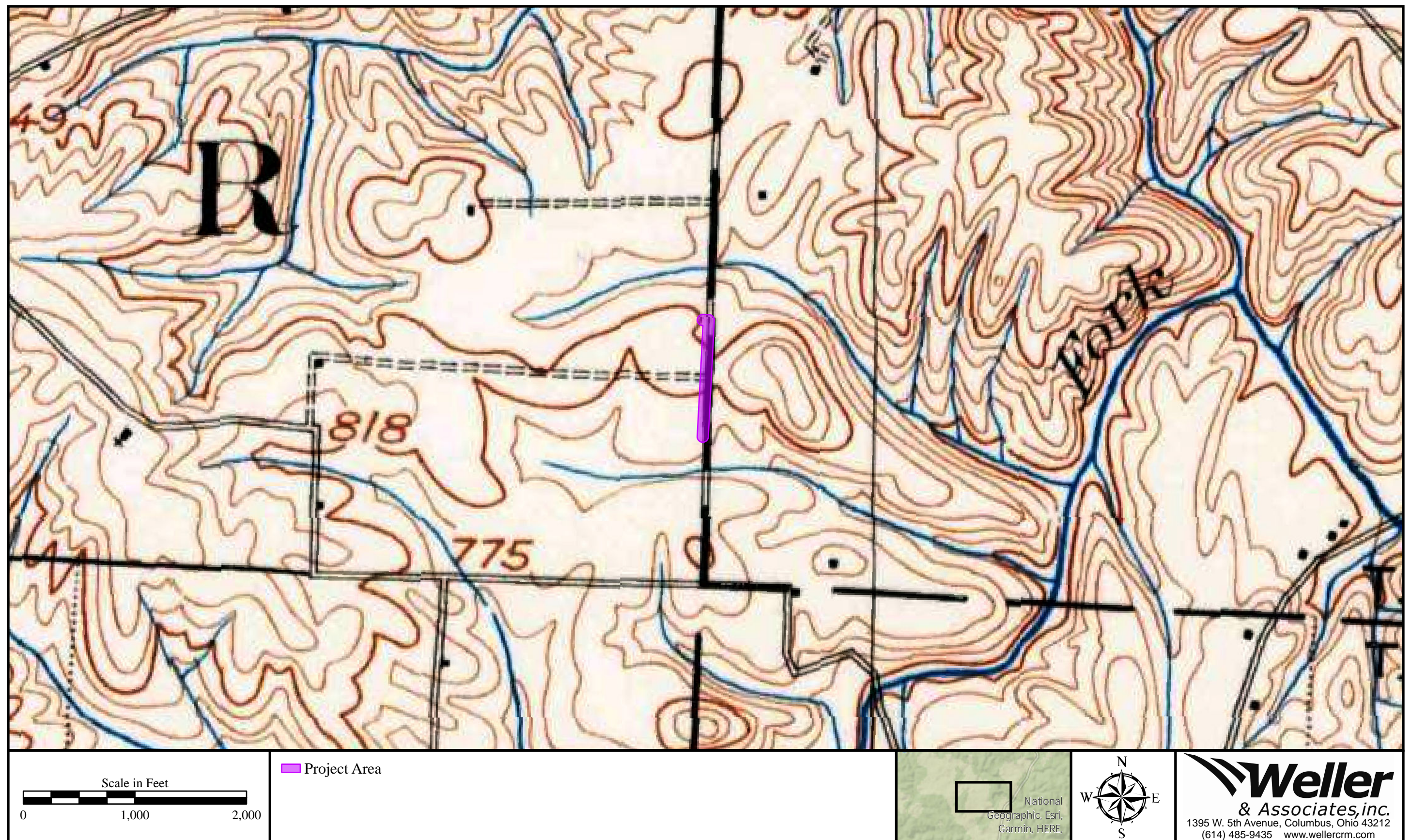


Figure 4. Portion of the USGS 1902 Parkersburg, West Virginia 15 Minute Series (Topographic) map indicating the approximate location of the project.





Figure 5. Fieldwork results and photo orientation map.





Figure 6. View of shovel tested conditions looking south.

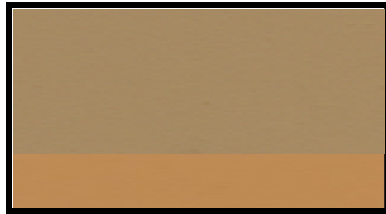


Figure 7. View of shovel tested conditions looking north.



## Schematic of a Test Unit Profile

Vincent Silt Loam (VinC1)



**Ap** 10YR6/4 Light Yellowish Brown Silt Loam

**B** 7.5YR6/6 Reddish Yellow Silt Loam

**Provenience:** T1, U4

**Figure 5**

**Depth to Subsoil:** 21 cm

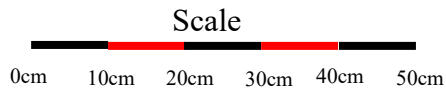


Figure 8. A typical shovel test unit excavated within the project.