Construction Notice
Macy Extension 138 kV Adjustment and Macy-Justice 138 kV Tie Lines #1 and #2 Project

PUCO Case No. 24-0441-EL-BNR

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

Submitted by:
Ohio Power Company

April 25, 2024

Construction Notice

Ohio Power Company

Macy Extension 138 kV Adjustment and Macy-Justice 138 kV Tie Lines #1 and #2 Project

4906-6-05

Ohio Power Company (the "Company") provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

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.

The Company is proposing the Macy Extension 138 kV Adjustment and Macy-Justice 138 kV Tie Lines #1 and #2 Project (the "Project") located in the City of New Albany, Jersey Township, Licking County, Ohio. The Project involves the construction of two parallel, approximately 150-foot single circuit 138 kV transmission lines, Macy-Justice 138 kV #1 and #2 Tie Lines, to connect the Macy 138 kV Station (approved in Case No. 24-0005-EL-BLN) and the customer's new step-down station. The Macy 138 kV Extension consists of two parallel single circuit lines (approved in Case No. 24-0005-EL-BLN) and requires adjustment to accommodate a different tie-in location at the Macy Substation. No changes to the approved fence line of Macy 138 kV Station are required. The overall Project is customer driven and supports a new industrial development in the area. The Project will require a 100-ft wide transmission Right-of-Way ("ROW") for each circuit.

Figures 1 and Figures 2, included in **Appendix A,** show the location of the Project in relation to the surrounding vicinity.

The Project meets the requirements for a Construction Notice ("CN") because the components are within the types of projects defined by item 1(d)(i) of the Ohio Administrative Code Section 4906-1-01 Appendix A of the Application Requirement Matrix For Electric Power Transmission Lines:

(1) New construction extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:

(d) Line(s) primarily need to attract or meet the requirements of a specific customer or customers, as follows:

i. The line is completely on property owned by the specific customer or the applicant.

(1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:

(a) Line not greater than 0.2 miles in length

The Project has been assigned Case No. 24-0441-EL-BNR.

B(2) Statement of Need

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

A customer has requested a new 138 kV delivery to serve their facility requiring 125 MW of additional load in the New Albany, Ohio area. To meet the customer's request, the Company will construct the new Macy 138 kV Station (filed separately as Case No. 24-0005-EL-BLN), which will be fed by tapping the previously approved Anguin-Brie 138 kV Transmission Line, via the Macy Extension. The customer has requested an in-service date of August 1, 2024.

Failure to move forward with the proposed Project will result in the inability to serve the customer's projected 125 MW peak load and jeopardize the customer's plans in the New Albany, Ohio area.

The need for this supplemental Project was presented to stakeholders at the December 6, 2022, PJM SRRTEP meeting. The solution was presented and reviewed with stakeholders at the May 9, 2023, PJM TEAC meeting, see Appendix B. The Project has yet to be assigned a PJM identifier, but one is anticipated in early 2024. The Project was included in the Company's 2024 Long Term Forecast Report on page 127.

B(3) Project Location

The applicant shall 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 location of the Project in relation to existing and proposed transmission lines and stations is shown on **Figure 1**.

B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The Company conducted an analysis that included initial investigations of potential alternatives between the proposed Macy 138 kV Station and the Anguin-Brie 138 kV Transmission Line. The Macy 138 kV Station is proposed to be located adjacent to the customer's station on the parcel of the proposed development owned by the customer. Due to proximity of the customer's station and Macy 138 kV Station, no other viable alternatives were identified for the Macy-Justice 138kV Transmission Lines as all other alternatives would increase length of alignment, impact the customer development, or potentially impact the wetland

mitigation sites located north of the customer property. Similarly, the Macy 138 kV Extension adjustments are necessary to support the development of this customer and the location of the customer station in proximity to the Macy 138kV Station and Anguin-Brie 138kV Transmission line as well as surrounding wetland conservation easements and new developments in the area, no other viable alternatives were considered for this Project.

The proposed route for both the Macy-Justice Tie Line #1 and #2 138 kV Transmission Lines and the Macy 138 kV Extension is primarily located on the customer's parcel with only Macy 13kV Extension Transmission Line impacting one additional landowner within the existing Anguin-Brie 138kV Transmission Line ROW, which the parcel has undergone recent urbanized development. Any other alternative would cause project work outside of customer property, potentially resulting in forest clearing and wetland/stream disturbances due to the site being surrounded by wetland conservation easements located to the north and west of the proposed Project.

B(5) Public Information Program

The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

The Project will be located on customer and Company owned property. 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

The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project is anticipated to begin in June 2024, and the anticipated in-service date is August 2024.

B(7) Area Map
The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.

Figure 1 provides the proposed Project area and existing transmission facilities on a map of 1:24,000-scale (1-inch equals 2,000 feet), showing the Project on a topographic map of the New Albany quadrangle provided by the National Geographic Society. **Figure 2** shows the Project area on recent aerial photography, dated 2021, as provided by the Environmental Systems Research Institute (ESRI), at a scale of 1:6,000 (1-inch equals 500 feet).

To visit the Project site from Columbus, Ohio, take I-670 East for approximately six miles and then merge onto I-270 N toward Cleveland. Continue on I-270 for approximately two miles, then take Exit 30 New Albany/OH 161E. Continue on OH 161E for 11 miles and then take the Beech Road NW exit. Turn right

onto Beech Road and continue for approximately 1.5 miles. The approximate address of the Project site is 1101 Beech Road SW, at latitude 40.0574555°, longitude -82.7547470°.

B(8) Property Agreements

The applicant shall 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.

A list of properties required for the Project is provided in the table below. The Company has entered into a right of entry agreement with the customer.

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
094-106686-00.000	Supplemental Easement	Yes
094-107502-00.003	New Easement	Yes

B(9) Technical Features

The applicant shall 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.

The adjustment required for the Macy Extension 138 kV Transmission Line is estimated to include the following:

Voltage: 138 kV
Conductors: (2) 1033.5 kcmil 54/7 Strands CURLEW ACSS AW double bundled
Static Wire: (2) 96 count OPGW
Insulators: Polymer
ROW Width: 100-foot
Structure Types: (1) single circuit, steel pole deadend

The transmission line construction for the Macy-Justice Tie Line #1 138 kV Transmission Line is estimated to include the following:

Voltage: 138 kV
Conductors: 795 kcmil 26/7 Strands DRAKE ACSR
Static Wire: (2) 7#10 Alumoweld
Insulators: Polymer
ROW Width: 100-foot
Structure Types: N/A

The transmission line construction for the Macy-Justice Tie Line #2 138 kV Transmission Line is estimated to include the following:

Voltage: 138 kV

Conductors: 795 kcmil 26/7 Strands DRAKE ACSR
Static Wire: (2) 7#10 Alumoweld
Insulators: Polymer
ROW Width: 100-foot
Structure Types: N/A

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 the Project.

B(9)(c) Project Cost

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $1,200,000 based on a Class 4 estimate. Forty percent (40%) of the costs for the construction of Macy – Justice Tie Line #1 and #2 will be recovered through reimbursement from the customer. Pursuant to the PJM Open Access Transmission Tariff ("OATT"), the costs 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 Characteristics

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

An aerial photograph of the Project vicinity is provided as **Figure 2**. The Project location and vicinity had historically been agricultural land and scrub-shrub vegetation with scattered woodlots throughout, however, the Project area has recently undergone land use change to light commercial and industrial use and is currently zoned as a business park according to the City of New Albany Zoning Map. The Project is located in the City of New Albany, Jersey Township, Licking County, Ohio. There are no parks, churches, cemeteries, wildlife management areas, or nature preserve lands within 1,000 feet of the Project.

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 Licking County Auditor provided a list of parcels registered as Agricultural District Land on April 4, 2024, that confirmed the Project is not located within lands identified as Agricultural District Land. In addition, the Project does not cross any agricultural land.

The majority of the Project site does occur either within the customer development or the existing ROW associated with the Anguin-Brie 138kV Transmission Line. Therefore, significant disturbances to agricultural practices are not anticipated to occur as result of the Project.

B(10)(c) Archaeological and Cultural Resources

Provide a description of the applicant's investigation concerning the presence or absence of significant archaeological 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.

A Phase I Archaeological Investigation and a History/Architecture Investigation for the proposed Macy 138 kV Station Project occurred on September 12, 2023. The extent of the Macy-Justice 138 kV Tie Lines were included within the survey associated with the Macy 138kV Station Project. Four previously identified archaeological sites and no architectural resources of 50 years of age or older were identified within the APE identified within the Area of Potential Effect ("APE"). The four archeological sites were not recommended as being eligible for listing in the National Register of Historic Places ("NRHP").

A Phase I Archaeological Investigation and a History/Architecture Investigation for the Macy 138 kV Extension component of the Project occurred on October 17, 2023. One previously identified archaeological site and no architectural resources of 50 years of age or older were identified within the APE. The one previously identified archaeological site was not recommend as being eligible for listing in the NRHP.

On September 15, 2023, and October 30, 2023, the Ohio State Historic Preservation Office ("SHPO") concurred with the recommendations and stated that the Macy-Justice 138 kV and the Macy 138 kV Extension Transmission Lines will have no effect on historic properties and no further investigations or consultation with SHPO is necessary. Coordination with SHPO is provided as **Appendix C**.

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.

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction stormwater discharges under General Permit OHC000006. The Company will also coordinate stormwater permitting needs with local government agencies, as necessary. The Company will implement and maintain best management practices as outlined in the Project-specific Stormwater Pollution Prevention Plan to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant conducted a stream and wetland delineation within the Project study area. No wetlands, streams, or ponds were identified within the Project study area as provided in **Section (10)(f)**

below. Therefore, no streams or wetlands are proposed for disturbances as part of this Project and authorization from the United States Army Corps of Engineers ("USACE") is not warranted.

No FEMA regulated floodplains or floodways will be disturbed by the Project as identified in FEMA Map ID# 39089C0267H.

There are no other known local, state, or federal requirements that must be met prior to commencement of the proposed Project.

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.

As part of the ecological study completed for the Project, coordination letters were submitted to the United States Fish and Wildlife Service (USFWS) Ohio Ecological Services Field Office seeking technical assistance on the Project components for potential impacts to threatened or endangered species. Response letters from the USFWS (see **Appendix C**), both received on August 18, 2023, indicated that the federally endangered Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and tricolored bat (*Perimyotis subflavus*) as being within range of the Project area. The USFWS indicated that seasonal tree clearing would be required if suitable bat habitat trees were identified. However, no tree clearing is required for the Project so adverse impacts to protected bat species are not anticipated. Due to the Project type, size, and location, USFWS does not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species.

Coordination letters were submitted to the Ohio Department of Natural Resources (ODNR) Division of Wildlife (DOW) Ohio Natural Heritage Program (ONHP) and the ODNR - Office of Real Estate seeking an environmental review of the proposed Project components for potential impacts on state listed and federally listed threatened or endangered species. Correspondence letters from ODNR DOW/OHNP and the ODNR – Office of Real Estate were both received on September 8, 2023 (See **Appendix C**).

According to the DOW, the Project is within the range of the state and federally endangered Indiana bat, the state and federally endangered northern long-eared bat, the state endangered little brown bat (Myotis lucifugus), and the state and federally endangered tricolored bat. Additionally, the DOW indicated that the Project is within the vicinity of records for the northern long-eared bat. No tree clearing is required for this Project so no additional coordination with DOW regarding bat species is required.

Based on a desktop survey for caves, mines, and other potential openings, no winter hibernacula were identified within 0.25 mile of the Project (See **Appendix D**). Based on general observations during the ecological survey, the existing land use includes actively disturbed areas. No forested areas were identified within the Project area and no tree clearing is required. Therefore, no additional coordination with ODNR regarding bat species is required.

The ODNR-DOW indicated that the Project is within the range of one aquatic fish species, state threatened Lake chubsucker (*Erimyzon sucetta*). Due to the absence of streams within the Project area, no impacts are anticipated to this species.

In addition, the ODNR lists the Project in the range of the northern harrier (*Circus hudsonius*). The ODNR recommends that nesting habitats for the listed species be avoided during their nesting periods. Based on existing site conditions, potential nesting habitat for the Northern Harrier was not identified due to the existing land use being actively disturbed or associated with developed land associated with the customer's development. Therefore, no further coordination regarding the northern harrier was warranted for the Project as no habitat was present.

A copy of the agency correspondence is provided in **Appendix C**. Additional information regarding habitat assessments within the Project area is provided within the Wetland Delineation and Stream Assessment Report found in **Appendix D**.

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.

The Company's consultant prepared two ecological survey reports for the Project: (1) Macy 138 kV Station Project, which includes the survey area for Macy-Justice 138 kV Tie Lines, and (2) Macy 138 kV Extension and Anguin-Brie Cut In Project, which are provided in **Appendix D**. A total of three palustrine forested wetlands ("PFO") were identified within the Project Survey Area. These three wetlands are located outside of the customer's property and north of the station that will be avoided by the Project. No streams or ponds were identified within the Project area.

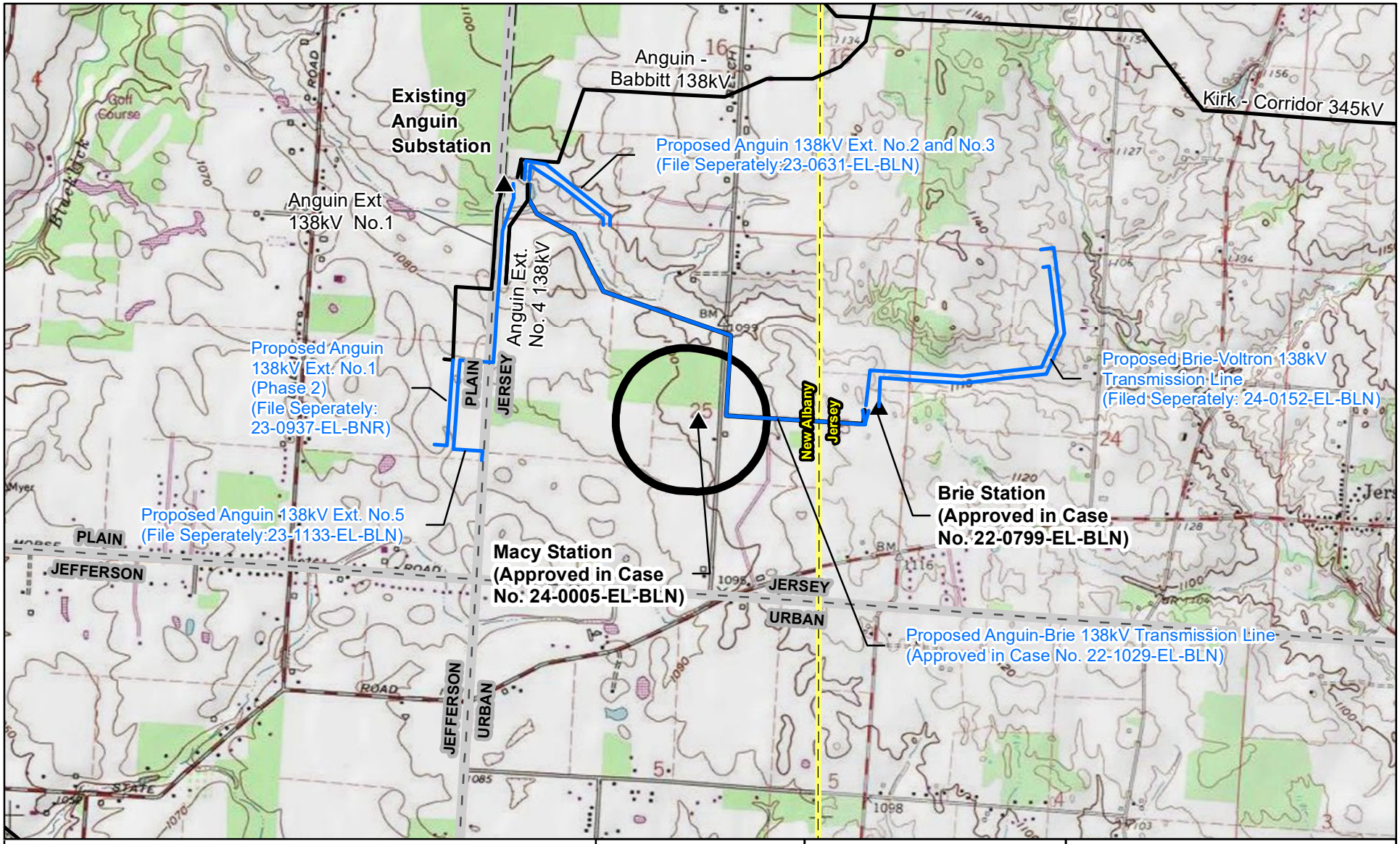
Coordination letters were submitted to the USFWS and ODNR requesting a review the Project and identification of areas of ecological concern. The USFWS's response emails for the Project were received on August 18, 2023, (**Appendix C**) and did not indicate any federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR's responses for the Project received on September 8, 2023 (**Appendix C**) did not indicate any known unique ecological sites, geologic features, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the Project area.

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 Figures



- Station
- Existing Transmission Line
- Proposed Transmission Line
- Project Area
- Township Boundary
- US Topographic Lines

Data Sources: AEP, USGS 7.5' Topographic Quadrangles (New Albany)

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

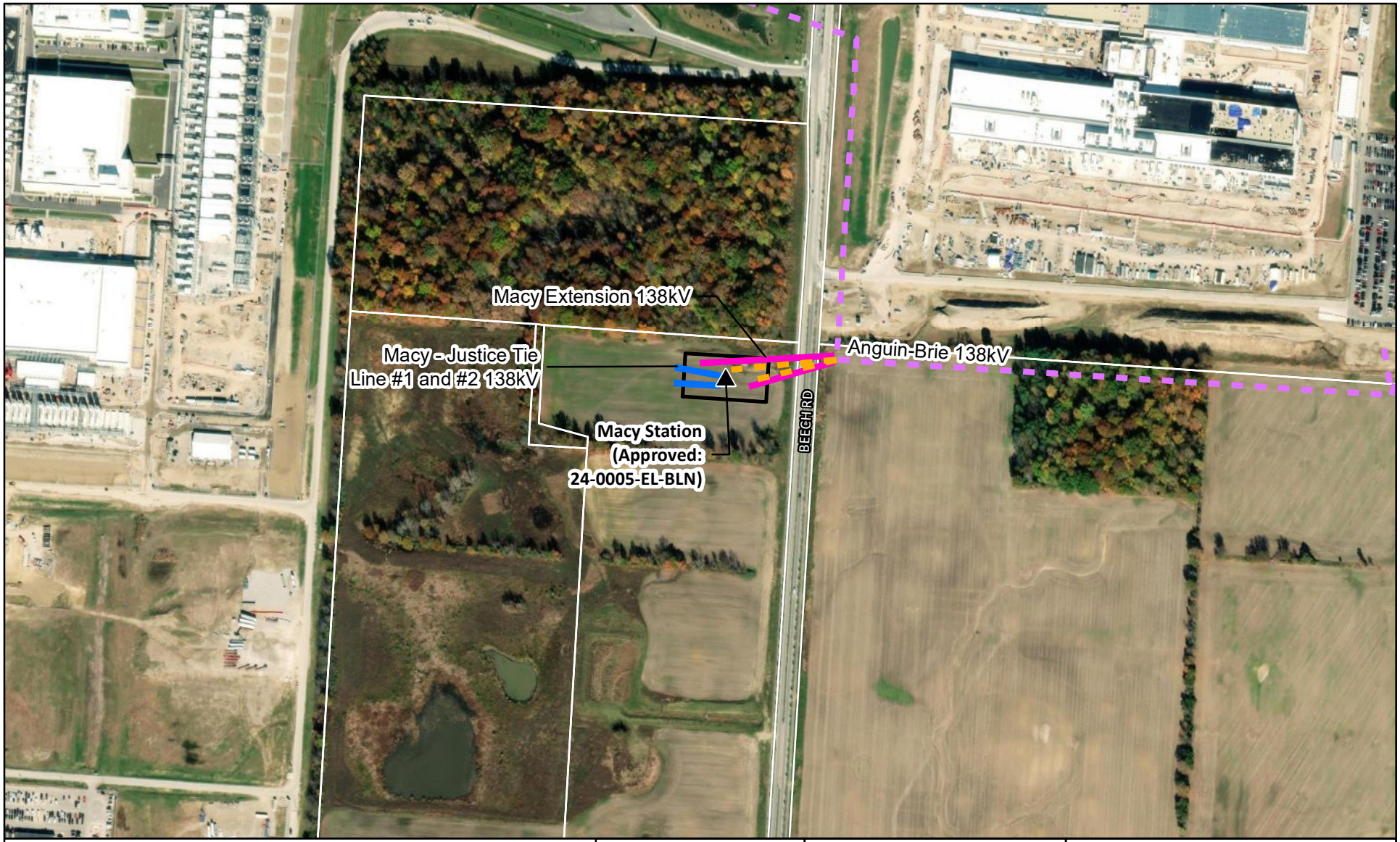
April 23, 2024

FIGURE 1
TOPOGRAPHIC OVERVIEW

AEP OHIO
An AEP Company

Construction Notice
Macy Extension 138 kV Adjustment and Macy-Justice Tie Line #1 and #2 138 kV Transmission Line Projects

0 1,000 2,000 3,000 4,000
Feet



- Proposed Macy Extension 138kV Transmission Line
- Proposed Macy - Justice 138kV Transmission Line
- Macy Extension 138kV Transmission Line (Filed Macy Station: 24-0005-EL-BLN)
- Proposed Anguin-Brie 138kV Transmission Line (Approved in Case No. 22-1029-EL-BLN)
- Parcel Boundary
- Proposed Macy Station (Approved: 24-0005-EL-BLN)

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

April 23, 2024

FIGURE 2
AERIAL MAP

AEP OHIO
An AEP Company

Construction Notice
Macy Extension 138 kV Adjustment and Macy-Justice Tie Line #1 and #2 138 kV Transmission Line Projects

0 500 1,000
Feet

Appendix B PJM Solution and Long-Term Forecast Report

12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to provide requested service to customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Fiesta - MSFT 138 kV #4 (TP2022947)
2	POINTS OF ORIGIN AND TERMINATION	Fiesta - MSFT 138 kV #4 INTERMDEIATE STATIONS - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~0.1 mi / 100 ft / 1 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2025
7	CAPITAL INVESTMENT:	$0.25 M
8	PLANNED SUBSTATION:	Fiesta
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	New 138 kV Line to serve customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to provide requested service to customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Macy Extension 138 kV (TP2022947)
2	POINTS OF ORIGIN AND TERMINATION	1). Anguin - Macy 138 kV INTERMEDIATE STATIONS - N/A 2). Brie - Macy 138 kV INTERMEDIATE STATIONS - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	1.45 mi / 100 ft / 2 circuits (~0.1 mi of Line work)
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	0.93 M
8	PLANNED SUBSTATION:	Macy
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	New 138 kV extension to serve customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to provide requested service to customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Macy - Justice DP 138 kV #1 (TP2022917)
2	POINTS OF ORIGIN AND TERMINATION	Macy - Justice 138 kV #1 INTERMEDIATE STATIONS - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~0.1 mi / 100 ft / 2 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	0.22 M
8	PLANNED SUBSTATION:	Macy
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	New 138 kV Line to serve customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to provide requested service to customer
13	MISCELLANEOUS:	
1	LINE NAME AND NUMBER:	Macy - Justice DP 138 kV #2 (TP2022917)
2	POINTS OF ORIGIN AND TERMINATION	Macy - Justice 138 kV #2 INTERMEDIATE STATIONS - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~0.1 mi / 100 ft / 2 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2024
6	CONSTRUCTION:	2024
7	CAPITAL INVESTMENT:	0.17 M
8	PLANNED SUBSTATION:	Macy
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	New 138 kV Line to serve customer

Need Number: AEP-2022-OH075

Process Stage: Solutions Meeting 5/9/2023

Previously Presented: Needs Meeting 12/6/2022

Project Driver: Customer Service

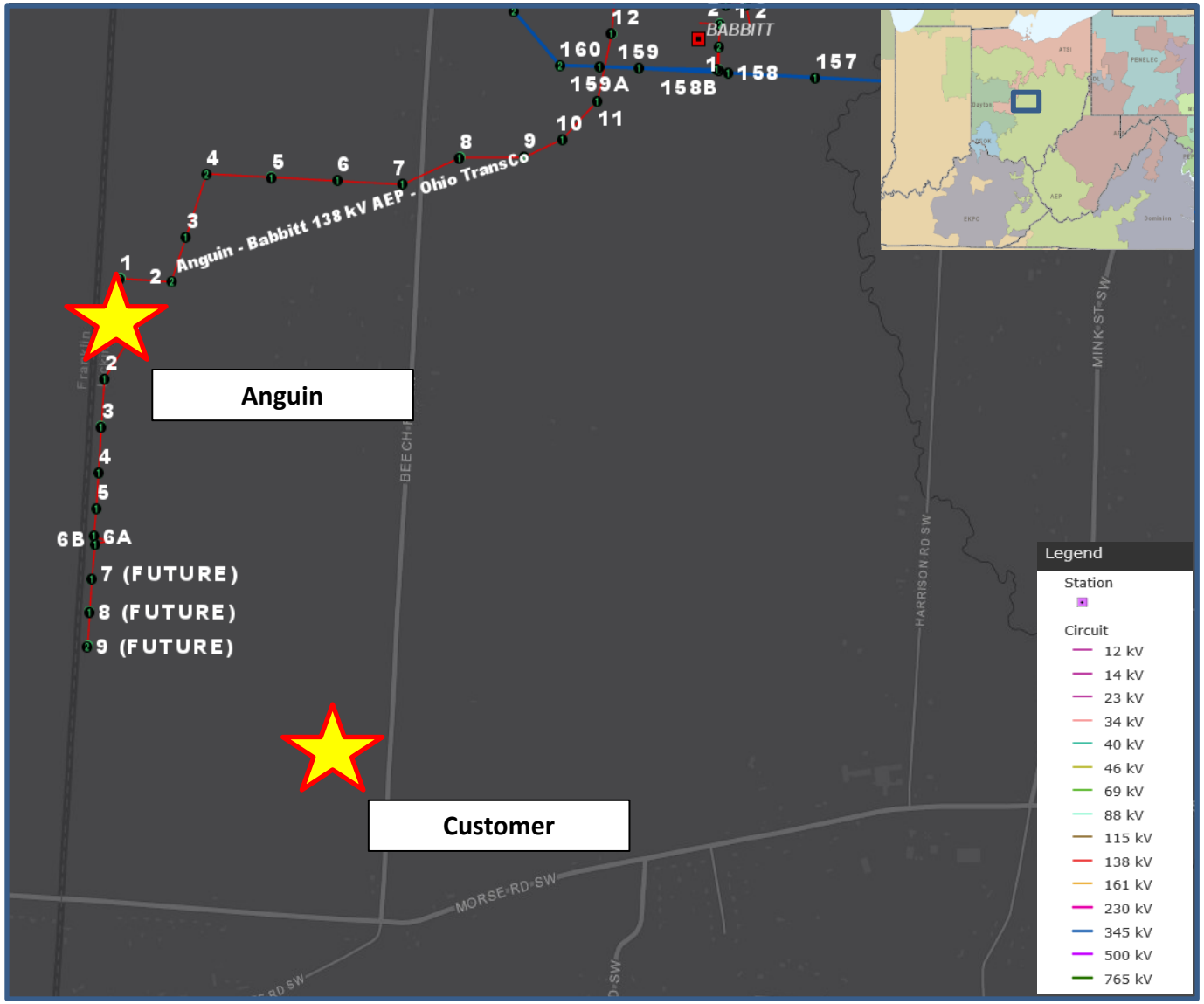
Specific Assumption Reference:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

Customer Service:

- A customer has requested transmission service at a site Southeast of AEP's existing Anguin station in New Albany, OH.
- The customer has indicated a peak demand of ~~100~~ 125 MW at the site.
- The customer has requested an ISD of 8/1/2024



AEP Transmission Zone M-3 Process
New Albany, OH

Need Number: AEP-2022-OH075

Process Stage: Solutions Meeting 5/9/2023

Proposed Solution:

The following work is all direct connect substations to physically connect demand to the grid.

- **QTS South 138 kV**: Cut into one of the circuits of Anguin – Brie 138 kV line and extend ~0.1 miles of two single circuit lines, utilizing 2-bundled ACSS Curlew 1033.5 (54/7) conductor, SE rating 1123 MVA , to the greenfield Macy station with (4) 80 kA, 4000 A breakers laid out as 4-CB ring bus. Construct (2) 138 kV tie lines to the customers dead end structures ~0.04 miles utilizing ACSR Dove 556.5 (26/7) conductor SE 284 MVA. Cost: **$9.54 M**
- **Brie – Innovation 138 kV Tie**: Construct a greenfield ~1.75 mile of double circuit line, utilizing 2-bundled ACSS Curlew 1033.5 (54/7) conductor, connecting Brie and Innovation stations as well as re-establish the Babbitt - Kirk 138 kV circuit. At Brie 138 kV station will install four 138 kV circuit breakers in two partial strings breaker and half configuration along with a 69.1 MVAR capacitor. Perform remote end work at Innovation, Babbitt, and Kirk 138 kV stations. This project addresses a consequential (for a N-1-1 contingency) load drop event of more than 300 MW for the loads served out of AEP's Anguin and Brie stations while also addressing an overload on the Babbitt – Innovation 138 kV circuit in relation to new customer interconnections in the area. Cost: **$10.8 M**

Appendix C Agency Correspondence

In reply, refer to
2023-LIC-59399

October 30, 2023

Ryan Weller
Weller & Associates, Inc.
1395 W. Fifth Ave.
Columbus, OH 43212
rweller@wellercrm.com

RE: Macy Extension Transmission Line, Jersey Township, Licking County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received October 17, 2023 regarding the proposed Macy Extension Transmission Line, Jersey Township, Licking 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 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 letter report titled *Phase I Cultural Resource Management Investigations for the .32 km (0.2 mile) Macy Extension Transmission Line Project in Jersey Township, Licking County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2023).

A literature review was completed as part of the investigations. One (1) previously identified archaeological resource is located within the project are, Ohio Archaeological Inventory (OAI) #33LI2272. The site was previously determined not eligible for listing in the National Register of Historic Places (NRHP). Our office continues to agree with this recommendation. The entirety of the project area has been previously investigated. No architectural resources fifty years old or older are located within the Area of Potential Effects (APE).

Based on the information provided, we agree 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 historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorrocks@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1100248

In reply, refer to
2023-LIC-59052

September 15, 2023

Ryan Weller
Weller & Associates, Inc.
1395 W. Fifth Ave.
Columbus, OH 43212
rweller@wellercrm.com

RE: Macy 138kV Station Project, Jersey Township, Licking County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received September 12, 2023 regarding the proposed Macy 138kV Station Project, Jersey Township, Licking 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 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 4 ha (10 ac) Macy 138kV Station Project in Jersey Township, Licking County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2023).

A literature review was completed as part of the investigations. The project area has been previously surveyed and four (4) previously identified archaeological sites are located in the project area, Ohio Archaeological Inventory (OAI) #33LI2274, 33LI2377, 33LI2378, and 33LI2379. All of the sites were previously determined not eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with the previous eligibility decisions and no additional archaeological survey is needed. No architectural resources 50 years of age or older were identified within the Area of Potential Effects (APE).

Based on the information provided, we agree 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 historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorrocks@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1099767

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

August 18, 2023

Project Code: 2023-0093253

Dear Mr. Joshua Holmes:

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 ≥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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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). 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.

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.

Sincerely,

Keith Lott
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

September 8, 2023

Joshua Holmes
AECOM
707 Grant Street, 5th Floor
Pittsburgh, Pennsylvania 15219

Re: 23-0924; Macy Extension

Project: The proposed project involves the installation of an approximately 0.25-mile greenfield 138kV transmission line extension from the Anguin-Brie transmission line to the proposed Macy Substation.

Location: The proposed project is located in Jersey Township, Licking 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 project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However,

limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

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 the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. 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 this or other aquatic species.

The project is within the range of the northern harrier (*Circus hudsonius*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, 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.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054
ajtoohey@ aep.com

June 14, 2023

Attention: Mr. John Kessler
Ohio Department of Natural Resources
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

Via email: environmentalreviewrequest@dnr.state.oh.us; NHDRequest@dnr.state.oh.us
Reference: Request for Technical Assistance, Macy Extension, Licking County, Ohio

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete a review for the proposed Macy Extension (Project) in Licking County, Ohio. The purpose of the Project is to install an approximately 0.25 mile greenfield 138kV transmission line extension from the Anguin- Brie transmission line to the proposed Macy Substation. The Project study area is located on the USGS New Albany, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on the Project Topographic Overview Map (Figure 1).

AECOM completed a desktop review of publicly available data to identify underground voids which could be potential hibernation sites for overwintering bats (hibernacula) within 0.25-miles of the Project area. The data sources utilized include USGS topographical maps, aerial photography, and ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figure 1 and 2. Based on the available desktop resources, there are no underground and historic surface mines or karst features located within 0.25-mile of the Project. Therefore, potential hibernaculum is not anticipated to be within range of the Project area.

Please provide us with the results of the ODNR's environmental review, including results of the ODNR Natural Heritage Database search, at your earliest convenience. If you have questions or need additional information regarding the Project, please contact me at the phone number or email below. Thank you for your assistance with this request.

Sincerely,

Brian Miller
Environmental Project Manager
Phone: (412-667-9172)
Brian.miller1@aecom.com

Cc: Amy J. Toohey
Environmental Specialist-Consultant
Phone: (614-565-1480)
ajtoohey@aep.com

Attachments: Figure 1 – Topographic Project Overview, Figure 2 – Aerial Project Overview Natural Heritage Data Request Form Electronic Shapefiles (.shp)

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

August 18, 2023

Project Code: 2023-0088649

Dear Mr. Joshua Holmes:

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 ≥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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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). 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.

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.

Sincerely,

Keith Lott
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

September 8, 2023

Joshua Holmes
AECOM
707 Grant Street, 5th Floor
Pittsburgh, Pennsylvania 15219

Re: 23-0923; Macy Substation and Macy-Justice Cust DP#1 T Line

Project: The proposed project involves the construction of a new greenfield substation and the installation of a new 0.15-mile greenfield 138kV transmission line extension from the QTS Justice Substation to the proposed Macy Substation.

Location: The proposed project is located in Jersey Township, Licking 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 project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However,

limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

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 the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. 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 this or other aquatic species.

The project is within the range of the northern harrier (*Circus hudsonius*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, 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.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

Appendix D Ecological Resources Inventory Report

MACY 138 KV EXTENSION AND ANGUIN – BRIE CUT-IN PROJECT

LICKING COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:
American Electric Power Ohio Transmission Company
8600 Smiths Mill Road
New Albany, Ohio 43054

Prepared by:

525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60708642

October 2023

TABLE OF CONTENTS

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FIGURES

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APPENDICES

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1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to install a new 0.25-mile greenfield 138 kilovolt (kV) transmission line extension (Project) from the Anguin-Brie Transmission line to the proposed Macy Station in Licking County, Ohio (OH). The Study Area associated with this Report for the Project is located on the New Albany, OH United States Geological Survey 7.5-minute topographical quadrangle as displayed on Project Overview Map (**Figure 1**).

Due to the active construction activities by others within the vicinity of the Project, an EMHT survey area overlaps with the AECOM Project Survey Area, see **Figure 2 and 3**. During those investigations, EMHT identified a total of three wetlands (EMHT Wetland A, EMHT Wetland C, and EMHT Wetland F) that overlap with the AECOM Project Survey Area. As the delineation was completed by others and not under public release, complete copies of the data forms and photographs have not been provided. However, AECOM has field verified the presence of these features and applicable forms have been included and/or supplemented with data provided from EMHT. Additionally, there is a conservation easement/EMHT wetland protection area that overlaps with the AECOM Project Survey Area, and it shall be avoided during construction due to existing wetland protection, see **Figure 2 and 3**. Only features that intersect the Project Survey Area have been included within this report.

The purpose of the field survey was to assess the presence of wetlands and other “waters of the United States” (WOTUS) that occur within the proposed Project area. Secondarily, land uses were also recorded to classify and characterize potential habitat for rare, threatened, and endangered (RTE) species. This report will be used to assist AEP Ohio Transco’s efforts to identify potential WOTUS and RTE habitat present within the proposed Project alignment to avoid or minimize impacts during construction activities.

2.0 METHODOLOGY

The field survey was conducted within 100-ft survey corridor centered on the 0.5-mile proposed transmission line extension. As a result, the Project survey area included approximately 9.77-acres. Prior to conducting field surveys, digital United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, United States Geological Survey (USGS) National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) 100-year floodplain data, and USGS 7.5-minute topographic maps were reviewed to identify the occurrence and location of potential wetland areas and/or streams.

Field survey activities included recording the physical boundaries of observed water features using sub-meter capable EOS Arrow Global Positioning System (GPS) units in conjunction with the ArcGIS Field Maps application on iPad tablets. The GPS data was imported into ArcMap Geographic Information System software, where the data was reviewed, edited for accuracy, and compiled in a format suitable for transfer and use by AEP Ohio Transco. Water features were delineated and assessed based upon the appropriate procedures detailed below. Land uses observed within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetative cover of the location.

2.1 WETLAND DELINEATION

The Project survey area was evaluated according to the procedures outlined in the USACE *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE, 2010).

During field survey activities, AECOM utilized the routine on-site delineation method described in the 1987 manual and the regional supplement that consisted of a pedestrian site reconnaissance, including identifying the vegetative communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. If a wetland was identified, AECOM completed a USACE Wetland Determination Data form (USACE Data Form) within each unique wetland habitat to serve as a representative of the wetland hydrology, vegetative community, and soil characteristics. Adjacent to each wetland complex, AECOM completed an additional USACE Data Form as a representation of the upland community.

2.1.1 WETLAND CLASSIFICATION

Wetlands identified in the field were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.*, 1979). The unique wetland habitats were classified as palustrine emergent (PEM), palustrine forested (PFO), palustrine unconsolidated bottom (PUB), palustrine scrub-shrub (PSS), or other classifications for some wetlands. Multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation covers 30 percent or more of the substrate). Where multiple Cowardin classifications were present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation having 30% or greater coverage is used for classification.

2.1.2 WETLAND ASSESSMENT

Each delineated wetland was assessed following the Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM) (Mack, 2001). Wetland assessments utilized the 10-page ORAM form, providing a final Category rating for each wetland.

2.2 STREAM ASSESSMENT

Streams were identified by the presence of a defined bed, bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines the OHWM as “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” (USACE, 2005).

2.2.1 OEPA HABITAT ASSESSMENTS

Stream assessments were conducted using the methods described in the OEPA’s *Methods for Assessing Habitat in Flowing Waters*: *Using OEPA’s Qualitative Habitat Evaluation Index (QHEI)* (Rankin, 2006) and in the OEPA’s *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams associated with watershed area less than or equal to 1.0 square mile (259 hectares), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the Headwater Habitat Evaluation Index (HHEI) methodology and all other streams assessed using the QHEI. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manuals (OEPA, 2020) and by AECOM’s professional opinion.

Streams assessed in the Project survey area were reviewed for existing OEPA Aquatic Life Use Designations per OEPA’s Water Quality Standards (*OAC Chapter 3745-1*). Those without an existing use designation were assigned a provisional aquatic life use designation based upon habitat assessment results (Rankin, 1989; OEPA 2020).

2.2.2 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

The OEPA has designated each watershed in the state on based on whether it may be ineligible for coverage under the OEPA's 401 Water Quality Certification (WQC) for Nationwide Permits (OEPA, 2017). Mapping provided by the OEPA illustrates the eligibility of streams in the area to fall under a Nationwide Permit for 401 certification or if an individual state WQC needs to be applied for. Impacts to streams within each watershed would then have eligibility for 401 Water Quality Certification determined by the watershed category. The three categories are defined as:

Eligible: Streams within the watershed are eligible for coverage under Ohio EPA's water quality certification for the nationwide permits if all other general and regional special terms and conditions are met.

Ineligible: Projects affecting high quality streams and undesignated streams draining directly to high quality streams, as represented in the map, must undergo an individual 401 Water Quality Certification review process.

Possibly Eligible: Additional field screening procedures are required for streams in the watershed to determine appropriate eligibility. Projects affecting undesignated streams within those HUC12 watersheds that do not directly but eventually drain into high quality waters, might be eligible for coverage under the OEPA's 401 WQC for Nationwide Permits depending on the results of a field screening assessment. The procedures for determining individual stream eligibility in this scenario are specified in Appendix D "Stream Eligibility Determination Process" of the OEPA Ohio State Water Quality Certification of the 2017 Nationwide Permit Reauthorization.

2.2.3 UPLAND DRAINAGE FEATURES

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OHWM (USACE, 2005), and are equivalent to a swale or an erosional feature as described by the USACE: "generally shallow features in the landscape that may convey water across upland areas during and following storm events. Swales usually occur on nearly flat slopes and typically have grass or other low-lying vegetation throughout the swale" (USACE, 2005).

A roadside ditch may also be documented as a UDF if it meets the "not potentially jurisdictional" characterization as described in the Office of Environmental Services *Roadway Ditch Characterization Flowchart* (Ohio Department of Transportation, 2014). This would include a ditch that originates entirely within the roadway right-of-way, has a seasonal flow regime, was not constructed to drain a wetland, and does not have hydrophytic vegetation extending more than an insignificant amount beyond its original configuration.

In addition, UDF's (including swales, ditches, and other erosional features) are generally not WOTUS except in certain circumstances, such as relocated streams.

2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted an RTE species review and general field habitat surveys within the Project survey area. AECOM submitted requests to Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the USFWS Ohio Ecological Services Field Office soliciting comments on the proposed Project. Responses were received on September 8, 2023, and August 18, 2023, respectively (**Appendix A).** Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of assessing potential impacts to RTE species. Land uses within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetative cover as observed during the field surveys.

AECOM conducted a desktop assessment of the Project Survey Area and a quarter-mile buffer around it to identify potentially occurring winter bat hibernaculum that may be present near the Project (**Appendix B)**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and USGS websites.

3.0 RESULTS

On May 10 and 11 2022, AECOM ecologists walked the Project Survey Area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project Survey Area, AECOM delineated two wetlands and one upland drainage features. The delineated features are discussed in detail in the following sections.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Soil Survey, four soil series are mapped within the Project Survey Area (USDA NRCS, 2023b). Of these, all four of the soil map units contain hydric inclusions (USDA NRCS, 2023a). Soils indicated as hydric inclusions are not predominately hydric soils and hydric soils are more likely to be found in topographic settings. **Table 1** below provides a detailed overview of all soil series and soil map units present within the Project Survey Area. Soil map units located in the Project survey area and vicinity are shown on **Figure 2**.

TABLE 1 - SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE PROJECT SURVEY AREA

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	Ground moraines, end moraines	Yes*	Condit 5%, Pewamo 3%
	BeB	Bennington silt loam, 2 to 6 percent slopes	End moraines, ground moraines	Yes*	Condit 3%, Pewamo 3%
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Ground moraines, end moraines	Yes*	Condit 4%, Marengo 3%
	Cen1C2	Centerburg silt loam, 6 to 12 percent slopes, eroded	End moraines, ground moraines	Yes*	Condit 4%

Yes* = Hydric inclusions

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project Survey Area contains one Palustrine, Emergent, Persistent, Seasonally Flooded (PEM1C) mapped NWI wetland. The feature was field verified as W-CMS-005. The locations of NWI mapped wetlands in the Project vicinity are shown on **Figure 2**.

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM confirmed the presence of and collected data on two PFO wetlands [W-CMS-005 (EMHT Wetland F) and W-CMS-007 (Wetland C)] within the Project survey area. Each of the identified wetlands were assessed as an ORAM Category 2 wetland. No Category 1 or Category 3 wetlands were identified within the Project survey area. The AECOM delineation boundaries are provided on **Figure 3**. There are other delineated EMHT wetlands and AECOM delineated wetlands that are shown on **Figure 2 and 3** that are adjacent to the Project Survey Area, but not located within the Project Survey Area**.** Additionally, there is a conservation easement/EMHT wetland protection area that overlaps with the AECOM Project survey area, and it shall be avoided during construction due to existing wetland protection, see **Figure 2 and 3**.

Wetlands W-CMS-005 (EMHT Wetland F), and W-CMS-007 (EMHT Wetland C) have been provisionally determined to be isolated by AECOM. Final jurisdictional status can only be determined by the USACE, and AECOM assessments are provisional. The location and approximate extent of the wetlands identified within the Project survey area are shown on **Figure 3**. Details for the delineated wetlands in the Project survey area are provided in **Table 2**. Completed USACE Data forms, ORAM forms and photographs of the wetland are provided in **Appendix C**.

TABLE 2 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROECT SURVEY AREA

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-CMS-005 (EMHT Wetland F)	40.05743	-82.75172	Yes	PFO	0.02	50	2	N/A	None	None	N/A	TBD	TBD
W-CMS-007 (EMHT Wetland C)	40.05710	-83.75095	Yes	PFO	0.12	49	2	N/A	None	None	N/A	TBD	TBD
Total:					**0.26**							**TBD**	**TBD**

3.2 STREAM DELINEATION

During the field survey, AECOM did not identify any streams within the Project survey area.

3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs across one watershed, designated by 401 WQC eligibility, as listed in **Table 3**. The watershed is listed as "possibly eligible." OEPA stream eligibility mapping for the Project vicinity, is provided on **Figure 4**.

TABLE 3 – SUMMARY OF WATERSHED 401 WQC ELIGIBILITY WITHIN THE PROJECT SURVEY AREA

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050600011503	Headwaters Blacklick Creek	Possibly Eligible	0
		Total	**0**

3.3 FEMA 100 YEAR FLOODPLAINS

Mapped FEMA designated 100-year floodplains and floodways are displayed on **Figure 2**. No regulated FEMA 100-year floodplains and/or floodways are located within the Project survey area.

3.4 PONDS

No ponds were observed within the Project survey area**.**

3.5 UPLAND DRAINAGE FEAUTURES

One upland drainage feature (UDF-CMS-003) was observed within the Project survey area. Photographs of the upland drainage features are provided in **Appendix D**.

3.6 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field survey. Developed habitat, agricultural row crops, woodland, pasture/hay fields, and streams/wetlands were the identified within the Project survey area and are described in **Table 4**. Vegetative communities are depicted visually on aerial photography in **Figure 5**.

TABLE 4- VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	4.78	48.93%
Agricultural Row Crops	Grassland and/or herbaceous cover alongside roads, field borders, and abandoned fields, as the initial stages of recolonization by plants following disturbance, and are infrequently mowed areas dominated by grasses, forbs, and occasional woody species. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields.	1.72	17.60%
Woodland	Woodlands are present along the Project survey area. The dominant tree species was box elder (*Acer negundo*) and dominant shrub-layer species was jewelweed *(Impatiens capensis)*.	1.66	16.99%
Pasture/Hay Fields	Shrub-Scrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the remaining canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with 30% or greater coverage of woody species that are not trees (including sapling trees generally <3" dbh and <20' in height).	1.57	16.07%
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey area for the Project.	0.04	0.41%
	Totals:	**9.77**	**100%**

3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

On June 14, 2023, coordination letters were sent to USFWS and the ODNR Ohio Natural Heritage Program and Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to RTE species. Responses were received from the USFWS on August 18, 2023, and from the ODNR on September 8, 2023. Correspondence letters from the USFWS and ODNR for the Project are included as **Appendix A**.

Regarding state and federal listed threatened and endangered species that may occur within the Project vicinity, a total of three species were identified by the USFWS and six species were identified by the ODNR. Based on the review of these species and the habitat identified within the Project Survey Area, it is not anticipated that the project would adversely affect any of the species or their habitats identified within **Table 5**.

Table 5 provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project Area are provided as **Appendix E**.

TABLE 5
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts
Mammals							
Indiana Bat (*Myotis sodalis*)	Endangered	Endangered	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Northern Long-eared Bat (*Myotis septentrionalis*)	Threatened	Endangered	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Additionally, the ODNR indicated that there is a known presence of this species within the Project area and summer surveys would not constitute a presence or absence of this species. Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Little brown bat (*Myotis lucifugus*)	Endangered	NA	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.

TABLE 5
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts
Tricolored bat (*Perimyotis subflavus*)	Endangered	Proposed	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Fish							
Lake chubsucker *(Erimyzon sucetta)*	Threatened	None	Perennial streams	Project area does not contain any perennial streams of sufficient size.	N/A	Due to the location, and the fact that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No in-water work is proposed; therefore, no further coordination required.
Birds							
Northern harrier (*Circus hudsonius*)	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	**No** – Based on field reviews, the Project area does not contain continuous habitat greater than 2-acres; subjected to "edge effect" or increase predation due to proximity of tree lines; and area is highly urbanized/industrial.	April 15 to July 31	Habitat should be avoided during the bird's nesting period between April 15 through July 31. If habitat will not be impacted, this Project will not likely impact species.	No

*2023 Joint Guidance – refers to the 2023 ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing, a copy of the guidance is provided within **Appendix F** of this report.

Protected Species Agency Summary –

Based on general observations during the ecological survey, forested clearing is not anticipated as there is an existing 138 kV transmission line present within the identified forested habitat within the Project Survey Area and no tree clearing is proposed as part of the Project. If tree clearing is required, the ODNR/USFWS recommends implementations of seasonal tree clearing between October 1 and March 31 to avoid adverse effects to Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. ODNR confirmed a known presence in the vicinity of the Project survey area for the northern long-eared bat. The Indiana bat, little brown bat, and tricolored bats are not known to be present in the vicinity of the Project survey area. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for Indiana bat, northern long-eared bat, little brown bat and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project survey area for the northern long-eared bat If summer tree clearing is needed, additional coordination will be completed with ODNR/USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2023 Ohio ODNR DOW and the USFWS Joint Guidance for Bat Surveys and Tree Clearing (2023 Joint Guidance; **Appendix F**) within 0.25 miles of the Project area and no caves, mines, and/or karst features were identified. As per ODNR and USFWS guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment find potential habitat within 0.25 miles of the Project survey area. Therefore, no further coordination was necessary with either the ODNR and/or the USFWS regarding the listed bat species. Results of the desktop habitat assessment have been included within **Appendix B**.

No impacts are anticipated for the fish, mussels, birds or amphibians as no in-water work is proposed as part of the Project or species habitat is present. Additionally, the potential for nesting habitat for the Northern Harrier was absent based on field/desktop review of the Project Survey Area. The absence of habitat was due to the extensive disturbance to the surrounding area where grading and other construction activities are taking place as well as fragmented habitat thus lacking contiguous habitat. Therefore, no further coordination regarding this listed species is necessary concerning this Project.

4.0 SUMMARY

The ecological survey of the Project confirmed the boundary of two previously delineated EMHT wetland and identified no streams, or ponds within the Project survey area. The wetlands have been provisionally determined to be isolated. The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey area provided in **Figure 3**. Areas that fall outside of the Project survey area were not evaluated in the field and are not included in the reporting of this survey.

Of the six state and/or federally listed threatened and endangered species within range of the Project survey area, none of the species or their critical habitat were identified for the fish or bird species. The young successional trees may provide suitable habitat for the bat species; however, no tree clearing is anticipated to be required for this Project. Therefore, no further coordination is anticipated to be required to the USFWS and/or ODNR.

The information contained in this wetland delineation report is for a study area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

5.0 REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* Office of Biological Services, U.S. Fish and Wildlife Service, Washington, D.C.

Environmental Laboratory. 1987. *U.S. Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station: Vicksburg, Mississippi.

Federal Emergency Management Agency (FEMA). 2016 National Flood Hazard for the State of Ohio. https://msc.fema.gov/portal Published December 1, 2022.

Mack, John J. 2001. *Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms. OEPA Technical Report WET/2001-1*. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.

Ohio Department of Transportation. 2014. Roadway Ditch Characterization Flowchart. From: Ecological Manual, April 2014. Office of Environmental Services.

Ohio Division of Wildlife and United States Fish and Wildlife Service (USFWS) (OH-Field Office) Joint Guidance for Bat Surveys and Tree Clearing. Published May 2023.

Ohio Environmental Protection Agency (OEPA). 2017. Section 401 Water Quality Certification for the 2017 Nationwide Permits. Appendix D Stream Eligibility Determination Process. Effective March 17, 2017. Ohio Environmental Protection Agency, Division of Surface Water, 401 Water Quality Certification and Isolated Wetland Permitting Section, Columbus, Ohio.

OEPA. 2017. 401 Water Quality Certification for the Nationwide Permits Stream Eligibility Web Map (2017 Reissuance). https://data-oepa.opendata.arcgis.com/datasets/401-water-quality-certification-for-nationwide-permits

OEPA. 2020. *Field Methods for Evaluating Primary Headwater Streams in Ohio*. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. May 2020. 130 pp.

Rankin, Edward T. 1989. *The Qualitative Habitat Evaluation Index (QHEI*): *Rationale, Methods, and Application*. Ohio EPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.

Rankin, Edward T. 2006. *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI)*. OEPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.

United States Army Corps of Engineers (USACE). 2005. Regulatory Guidance Letter No. 05-05: Guidance on Ordinary High Water Mark Identification.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, J. F. Berkowitz, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

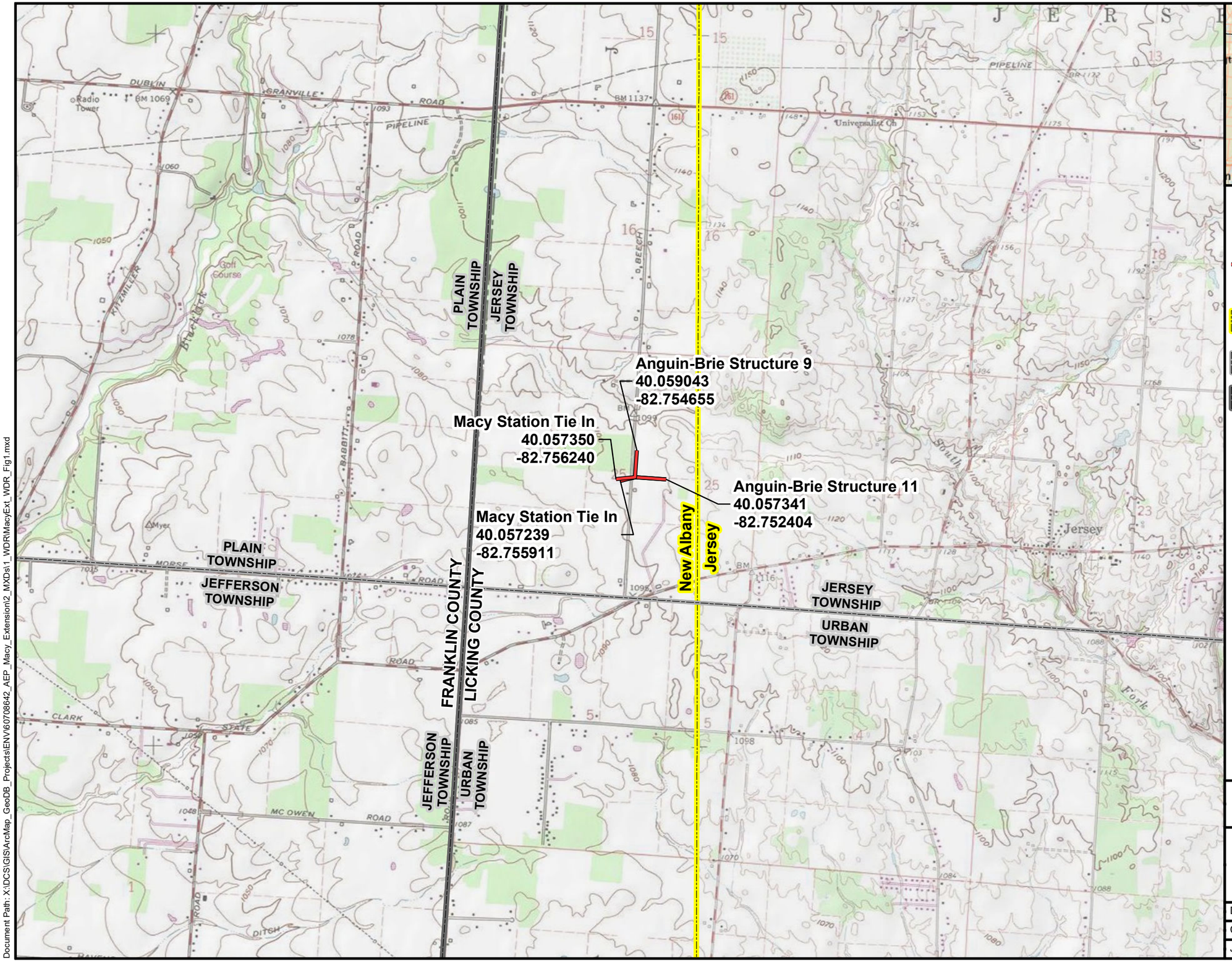
USACE. 2020. *National Wetland Plant List*, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH. http://wetland_plants.usace.army.mil/

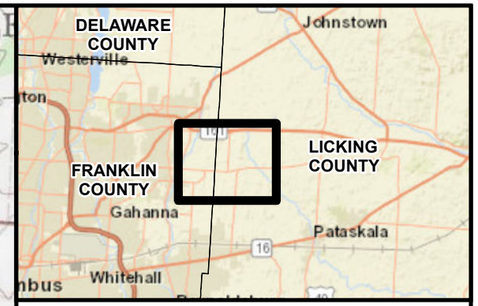
United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 2021a. National Hydric Soils List. http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed June 2023.

USDA NRCS. 2021b. Web Soil Survey (GIS Shapefile). http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed June 2023.

USFWS. 2023. National Wetlands Inventory Geodatabase for Ohio. Available online at http://www.fws.gov/wetlands/Data/Mapper.html. Accessed June 2023.

United States Geological Survey. 2016. National Hydrography Dataset, Ohio Statewide Geodatabase. Published August 2016. Earth Science Information Center, USGS, Reston, VA.





Legend

- Macy 138kV Extension and Anguin-Brie Cut-In Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 1,000 2,000 4,000

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Extension and Anguin-Brie Cut-In Project

FIGURE 1
PROJECT OVERVIEW

DATE: 10/16/2023	1 INCH = 2,000 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60708642	AECOM

Date Saved: 10/16/2023
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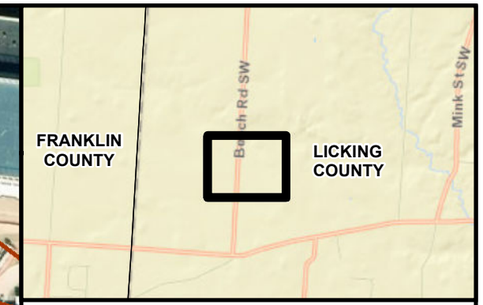


Legend

- Culvert
- Wetland Data Point
- Upland Data Point
- Macy 138kV Extension and Anguin-Brie Cut-In Transmission Line
- Delineated Upland Drainage Feature
- Delineated Pond
- Delineated PEM Wetland
- Delineated PFO Wetland
- Project Survey Area
- EMHT Delineated Stream
- Conservation Easement
- EMHT Completed Survey Area
- EMHT Wetland Protection Area
- EMHT Delineated Wetland
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)
- BeA: Bennington silt loam, 0 to 2 percent slopes
- BeB: Bennington silt loam, 2 to 6 percent slopes
- Cen1C2: Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cen1B1: Centerburg silt loam, 2 to 6 percent slopes

N

0 100 200 400

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Extension and Anguin-Brie Cut-In Project

FIGURE 2
SOIL MAP AND
NATIONAL WETLANDS INVENTORY MAP

DATE: 10/23/2023	1 INCH = 200 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60708642	AECOM

Date Saved: 10/23/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60708642_AEP_Macy_Extension\2_MXDs\1_WDR\MacyExt_WDR_Fig2.mxd

Legend

- Culvert
- Wetland Data Point
- Upland Data Point
- Macy 138kV Extension and Anguin-Brie Cut-In Transmission Line
- Delineated Upland Drainage Feature
- EMHT Delineated Stream
- Contour (2ft)
- Delineated Pond
- Delineated PEM Wetland
- Delineated PFO Wetland
- Project Survey Area
- Conservation Easement
- EMHT Completed Survey Area
- EMHT Wetland Protection Area
- EMHT Delineated Wetland

N

0 100 200 400

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Extension and Anguin-Brie Cut-In Project

FIGURE 3
WETLAND DELINEATION AND STREAM ASSESSMENT MAP

DATE: 10/23/2023	1 INCH = 200 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60708642	AECOM

Date Saved: 10/23/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60708642_AEP_Macy_Extension\2_MXDs\1_WDR\MacyExt_WDR_Fig3.mxd

OEPA EPA 401
Possibly Eligible
Rocky Fork Creek
050600011501

Blacklick Creek

Macy Station Tie In
40.05735
-82.75624

Anguin-Brie Structure 9
40.059043
-82.754655

OEPA EPA 401
Eligible
Headwaters South Fork Licking River
050400060402

OEPA EPA 401
Possibly Eligible
Headwaters Blacklick Creek
050600011503

Anguin-Brie Structure 11
40.057341
-82.752404

Macy Station Tie In
40.057239
-82.755911

South Fork Licking River

Mile Run

OEPA EPA 401
Eligible
Muddy Fork
050400060401

Muddy Fork

Cole Ditch

Legend

- Macy 138kV Extension and Anguin-Brie Cut-In Transmission Line
- NHD Stream (USGS)
- Project Survey Area

OEPA Eligibility:

- Eligible
- Possibly Eligible

N

0 1,000 2,000 4,000

Feet

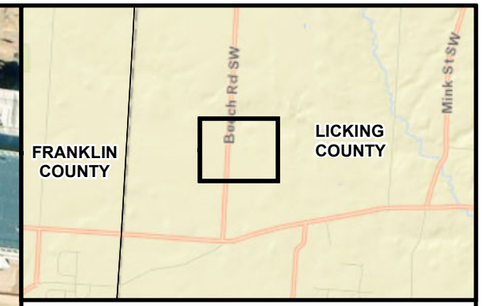
AMERICAN ELECTRIC POWER

Macy 138kV Extension and Anguin-Brie Cut-In Project

FIGURE 4
STREAM ELIGIBILTY MAP

DATE: 10/23/2023	1 INCH = 2,000 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60708642	AECOM

Date Saved: 10/23/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60708642_AEP_Macy_Extension\2_MXDs\1_WDR\MacyExt_WDR_Fig4.mxd



Legend

- Photograph Location
- Macy 138kV Extension and Anguin-Brie Cut-In Transmission Line
- Project Survey Area

Vegetative Community Type

- Agricultural Row Crops
- Urban
- Pasture/Hay Fields
- Streams/Wetlands
- Woodland

N

0 100 200 400

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Extension and Anguin-Brie Cut-In Project

FIGURE 5
VEGETATIVE COMMUNITIES ASSESSMENT MAP

DATE: 10/23/2023	1 INCH = 200 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60708642	AECOM

Date Saved: 10/23/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60708642_AEP_Macy_Extension\2_MXDs\1_WDR\MacyExt_WDR_Fig5.mxd

APPENDIX A

AGENCY CORRESPONDENCE

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

August 18, 2023

Project Code: 2023-0093253

Dear Mr. Joshua Holmes:

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 ≥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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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). 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.

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.

Sincerely,

Keith Lott
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

September 8, 2023

Joshua Holmes
AECOM
707 Grant Street, 5th Floor
Pittsburgh, Pennsylvania 15219

Re: 23-0924; Macy Extension

Project: The proposed project involves the installation of an approximately 0.25-mile greenfield 138kV transmission line extension from the Anguin-Brie transmission line to the proposed Macy Substation.

Location: The proposed project is located in Jersey Township, Licking 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 project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However,

limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

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 the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. 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 this or other aquatic species.

The project is within the range of the northern harrier (*Circus hudsonius*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, 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.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

APPENDIX B

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054
ajtoohey@ aep.com

June 14, 2023

Attention: Mr. John Kessler
Ohio Department of Natural Resources
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

Via email: environmentalreviewrequest@dnr.state.oh.us; NHDRequest@dnr.state.oh.us
Reference: Request for Technical Assistance, Macy Extension, Licking County, Ohio

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete a review for the proposed Macy Extension (Project) in Licking County, Ohio. The purpose of the Project is to install an approximately 0.25 mile greenfield 138kV transmission line extension from the Anguin- Brie transmission line to the proposed Macy Substation. The Project study area is located on the USGS New Albany, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on the Project Topographic Overview Map (Figure 1).

AECOM completed a desktop review of publicly available data to identify underground voids which could be potential hibernation sites for overwintering bats (hibernacula) within 0.25-miles of the Project area. The data sources utilized include USGS topographical maps, aerial photography, and ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figure 1 and 2. Based on the available desktop resources, there are no underground and historic surface mines or karst features located within 0.25-mile of the Project. Therefore, potential hibernaculum is not anticipated to be within range of the Project area.

Please provide us with the results of the ODNR's environmental review, including results of the ODNR Natural Heritage Database search, at your earliest convenience. If you have questions or need additional information regarding the Project, please contact me at the phone number or email below. Thank you for your assistance with this request.

Sincerely,

Brian Miller
Environmental Project Manager
Phone: (412-667-9172)
Brian.miller1@aecom.com

Cc: Amy J. Toohey
Environmental Specialist-Consultant
Phone: (614-565-1480)
ajtoohey@aep.com

Attachments: Figure 1 – Topographic Project Overview, Figure 2 – Aerial Project Overview Natural Heritage Data Request Form Electronic Shapefiles (.shp)

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 3.43 miles northwest of the project area.

FRANKLIN COUNTY

LICKING COUNTY

Anguin-Brie Structure 9
40.059043
-82.754655

Macy Station Tie In
40.057364
-82.756547

Anguin-Brie Structure 11
40.057341
-82.752397

Macy Station Tie In
40.057145
-82.755916

New Albany

Jersey

BM 1099

BM 1116

JERSEY TOWNSHIP

URBAN TOWNSHIP

Legend

- Proposed Macy Extension 138kV Transmission Line
- Quater Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 600 1,200

Feet

AEP

Macy Extension Project

FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 6/9/2023	1 INCH = 500 FEET
CREATED BY: CJT	CHECKED BY: JH
JOB NO.: 60708642	AECOM

Date Saved: 6/9/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60708642_AEP_Macy_Extension\2_MXDs\0_TE\Macy_Extension_ODNRFigure1_Topo_Overview.mxd

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 3.43 miles northwest of the project area.

FRANKLIN COUNTY

LICKING COUNTY

Anguin-Brie Structure 9
40.059043
-82.754655

Macy Station Tie In
40.057364
-82.756547

Anguin-Brie Structure 11
40.057341
-82.752397

Macy Station Tie In
40.057145
-82.755916

New Albany

Jersey

JERSEY TOWNSHIP

URBAN TOWNSHIP

Legend

- Proposed Macy Extension 138kV Transmission Line
- Quater Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 600 1,200

Feet

AEP

Macy Extension Project

FIGURE 2
AERIAL PROJECT OVERVIEW

DATE: 6/9/2023	1 INCH = 500 FEET
CREATED BY: CJT	CHECKED BY: JH
JOB NO.: 60708642	AECOM

Date Saved: 6/9/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60708642_AEP_Macy_Extension\2_MXDs\0_TE\Macy_Extension_ODNRFigure2_Aerial_Overview.mxd

APPENDIX C

U.S. ARMY CORPS OF ENGINEERS WETLAND DETERMINATION DATA FORMS

OEPA WETLAND ORAM FORMS

DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Anguin-Brie 138kV R0/Brie Substation City/County: Licking Sampling Date: 5/11/2022

Applicant/Owner: AEP State: OH Sampling Point: W-CMS-005

Investigator(s): CMS, HA Section, Township, Range: S25 2N 15W

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

Slope (%): 1 Lat: 40.057432 Long: -82.751724 Datum: NAD 83

Soil Map Unit Name: BeA: Bennington silt loam, 0 to 2 percent slopes NWI classification: NA

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This sample point is representative of W-CMS-005 a PFO wetland dominated by box elder, black locust, red maple, American elm, spotted touch-me-not, flat topped goldenrod and yellow avens.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	20	Yes	FAC
2. *Robinia pseudoacacia*	20	Yes	FACU
3. *Acer rubrum*	20	Yes	FAC
4. *Ulmus americana*	20	Yes	FACW
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rosa multiflora*	5	Yes	FACU
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Impatiens capensis*	40	Yes	FACW
2. *Euthamia graminifolia*	20	Yes	FACW
3. *Geum aleppicum*	20	Yes	FACW
4. *Poa palustris*	15	No	FACW
5. *Phalaris arundinacea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	120	x 2 =	240
FAC species	40	x 3 =	120
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	185 (A)		460 (B)

Prevalence Index = B/A = 2.49

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
A preponderance of hydrophytic vegeation is present.

SOIL

Sampling Point: W-CMS-005

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/2	100					Loamy/Clayey	
4-10	10YR 5/1	100					Loamy/Clayey	
10-16	10YR 4/1	70	10YR 2/1	30	c	m	Loamy/Clayey	Faint redox concentrations

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Precipitation provides hydrology.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Anguin-Brie 138kV R0/Brie Substation City/County: Licking Sampling Date: 5/11/2022

Applicant/Owner: AEP State: OH Sampling Point: W-CMS-005/6/7-UPL

Investigator(s): CMS, HA Section, Township, Range: S25 2N 15W

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

Slope (%): 4 Lat: 40.057158 Long: -82.751333 Datum: NAD 83

Soil Map Unit Name: BeA: Bennington silt loam, 0 to 2 percent slopes NWI classification: NA

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This sample point is represenative of the upland forest community that surrounds W-CMS-005, W-CMS-006 and W-CMS-007.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	70	Yes	FACU
2. *Carpinus caroliniana*	20	No	FAC
3. *Prunus serotina*	20	No	FACU
4.			
5.			
	110	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rosa multiflora*	5	Yes	FACU
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Impatiens capensis*	40	Yes	FACW
2. *Euthamia graminifolia*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	20	x 3 =	60
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	175 (A)		560 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
A preponderance of hydrophytic vegetation is not present.

SOIL

Sampling Point W-CMS-005/6/7-UPL

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100						
9-14	10YR 6/4	100						

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

The soil profile does not meet the criteria for any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

One wetland hydrology indicator was observed

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Anguin-Brie 138kV R0 City/County: Licking Sampling Date: 5/11/2022

Applicant/Owner: AEP State: OH Sampling Point: W-CMS-007

Investigator(s): CMS, HA Section, Township, Range: S25 2N 15W

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

Slope (%): 1 Lat: 40.057097 Long: -82.750953 Datum: NAD 83

Soil Map Unit Name: BeA: Bennington silt loam, 0 to 2 percent slopes NWI classification: NA

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This sample point is representative of W-CMS-007 a PFO wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	45	Yes	FAC
2. *Ulmus americana*	25	Yes	FACW
3.			
4.			
5.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus americana*	25	Yes	FACW
2. *Lindera benzoin*	25	Yes	FACW
3.			
4.			
5.			
	50	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	10	Yes	FACW
2. *Euthamia graminifolia*	5	Yes	FACW
3. *Acer rubrum*	2	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	17	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	47	x 3 =	141
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	137 (A)		321 (B)

Prevalence Index = B/A = 2.34

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
A preponderance of hydrophytic vegetation is present.

SOIL

Sampling Point: W-CMS-007

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/1	70	7.5YR 4/6	30	c	m	Loamy/Clayey	Prominent redox concentrations
2-8	10YR 6/1	60	10YR 6/6	40	c	m	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

The soil profile meets the criteria for having a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 0.1
Water Table Present?	Yes X	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Precipitation provides hydrology.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

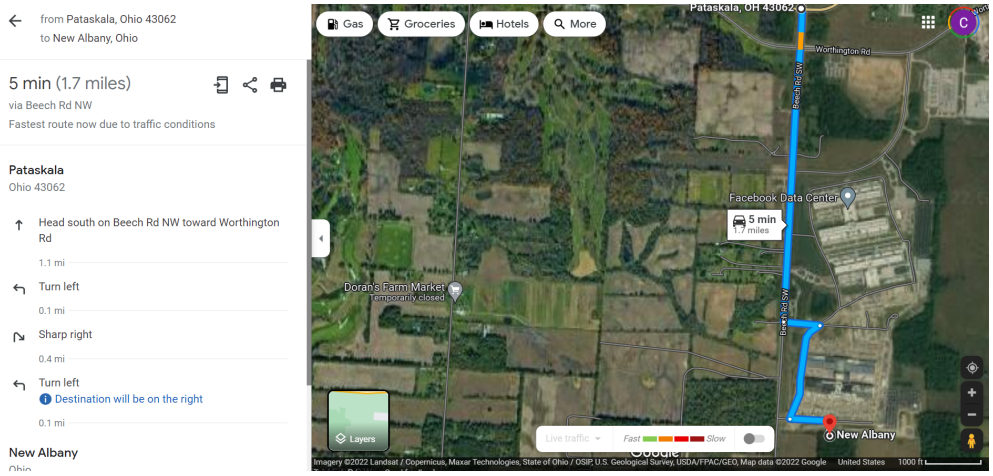
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name:	Charlotte Stallone
Date:	5/11/2022
Affiliation:	AECOM
Address:	564 White Pond drive, Akron OH 44320
Phone Number:	717-617-7738
e-mail address:	charlotte.stallone@aecom.com
Name of Wetland:	W-CMS-005
Vegetation Communit(ies):	PEM/PFO
HGM Class(es):	Depressional

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

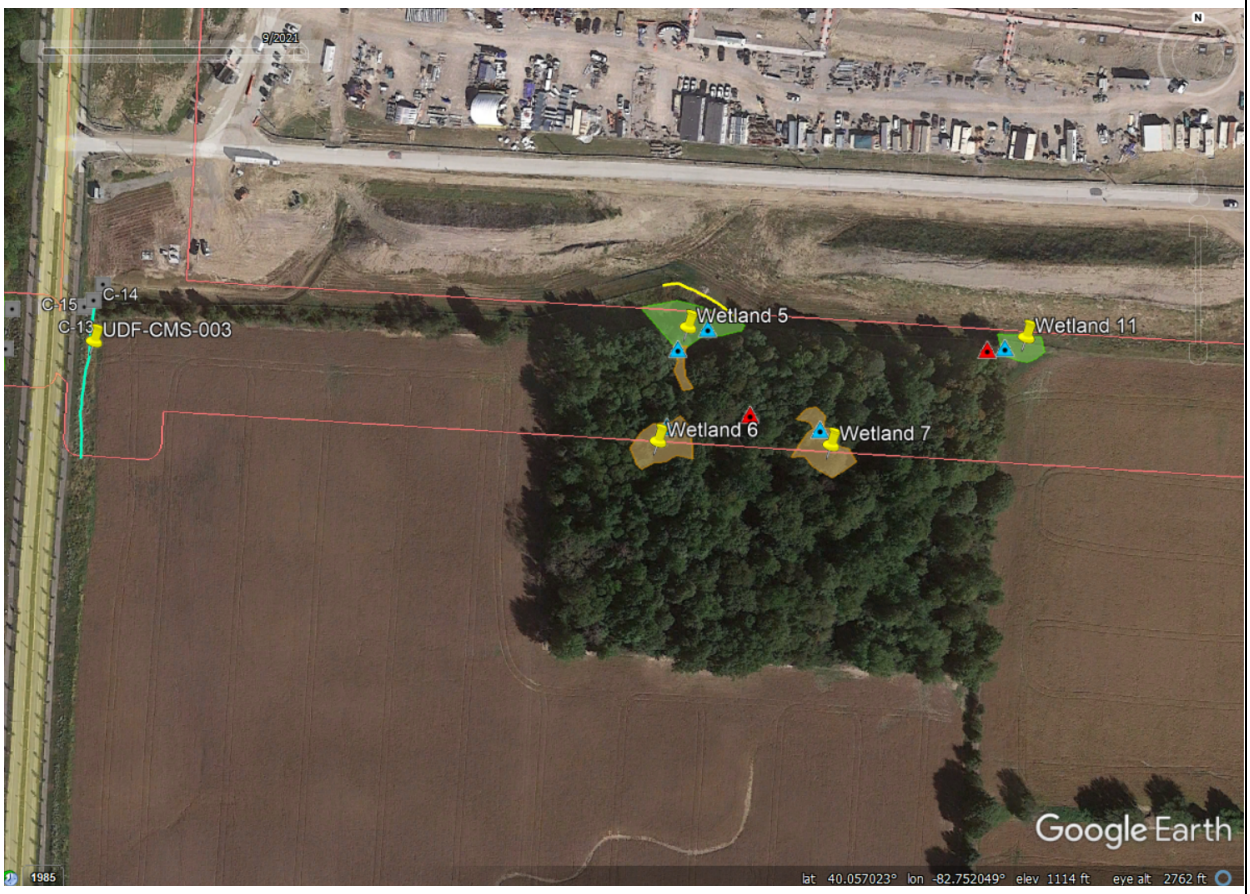


Lat/Long or UTM Coordinate	40.057432, -82.751724
USGS Quad Name	New ALbany
County	Licking
Township	New Albany
Section and Subsection	NA
Hydrologic Unit Code	050600011503
Site Visit	5/11/2022
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	
Soil Survey	
Delineation report/map	

Name of Wetland: W-CMS-005	
Wetland Size (acres, hectares): 0.164 acres	

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

N



Comments, Narrative Discussion, Justification of Category Changes:

The portion within the study area was found to consist of a PEM/PFO community. Forested wetland dominated by box elder, black locust, red maple, American elm, spotted touch-me-not, flat topped goldenrod and yellow avens. Emergent wetland dominated by fowl bluegrass, spotted touch-me-not, and fox sedge. Previously farmed.

Final score : 50	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		X
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		X

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Wetland 5

Site: Anguin-Brie 138kV R0/Brie Substation	Rater(s): C.Stallone	Date: 5/11/2022

Field Id: **W-CMS-005**

1 | 1 Metric 1. Wetland Area (size).

max 6 pts | subtotal

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

0.164 acres delineated within survey area

8 | 9 Metric 2. Upland buffers and surrounding land use.

max 14 pts. | subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [x] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [x] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.5 | 21.5 Metric 3. Hydrology.

max 30 pts. | subtotal

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [x] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [x] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [x] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] Other:

14.5 | 36 Metric 4. Habitat Alteration and Development.

max 20 pts. | subtotal

4a. Substrate disturbance. Score one or double check and average.

- [x] None or none apparent (4)
- [ ] Recovered (3)
- [ ] Recovering (2)
- [x] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [x] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [x] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [x] farming
- [ ] nutrient enrichment

36

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 5

Site: Anguin-Brie 138kV R0/Brie Substat	Rater(s): C.Stallone	Date: 5/11/2022

Field Id:
W-CMS-005

	36
	subtotal this page
0	**36**
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Praires (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 5 Qualitative Rating (-10)

14	**50**
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [3] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [x] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3) Phalaris arundinace
- [ ] Sparse 5-25% cover (-1)
- [x] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [2] Vegetated hummucks/tussucks
- [2] Coarse woody debris >15cm (6in)
- [2] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species
Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generallyw/o presence of rare threatened or endangered spp to
A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	0	Absent
	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	3	Present in moderate or greater amounts and of highest quality

Category 2

50	**GRAND TOTAL(max 100 pts)**

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	12.5	
	Metric 4. Habitat	14.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	14	
	TOTAL SCORE	50	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score *less* than the Category 2 scoring threshold (*excluding* gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	(YES) Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

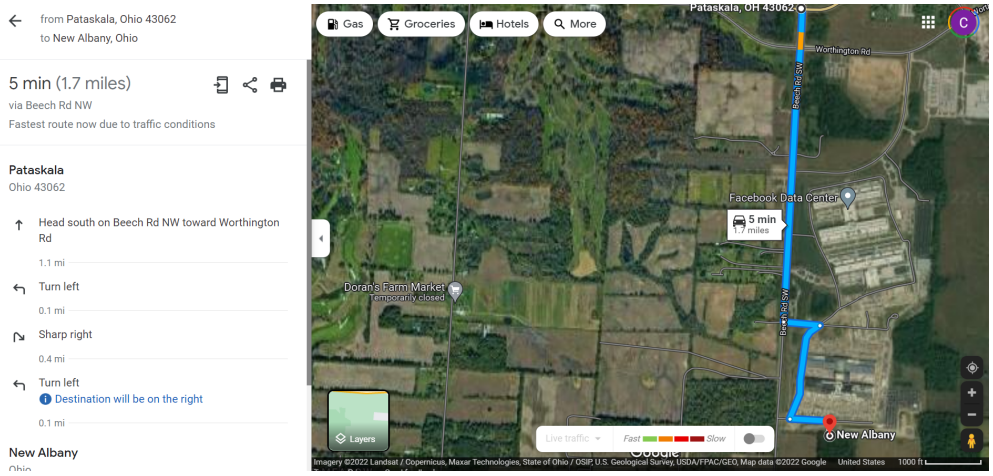
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name:	Charlotte Stallone
Date:	5/11/2022
Affiliation:	AECOM
Address:	564 White Pond drive, Akron OH 44320
Phone Number:	717-617-7738
e-mail address:	charlotte.stallone@aecom.com
Name of Wetland:	W-CMS-007
Vegetation Communit(ies):	PFO
HGM Class(es):	Depressional

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

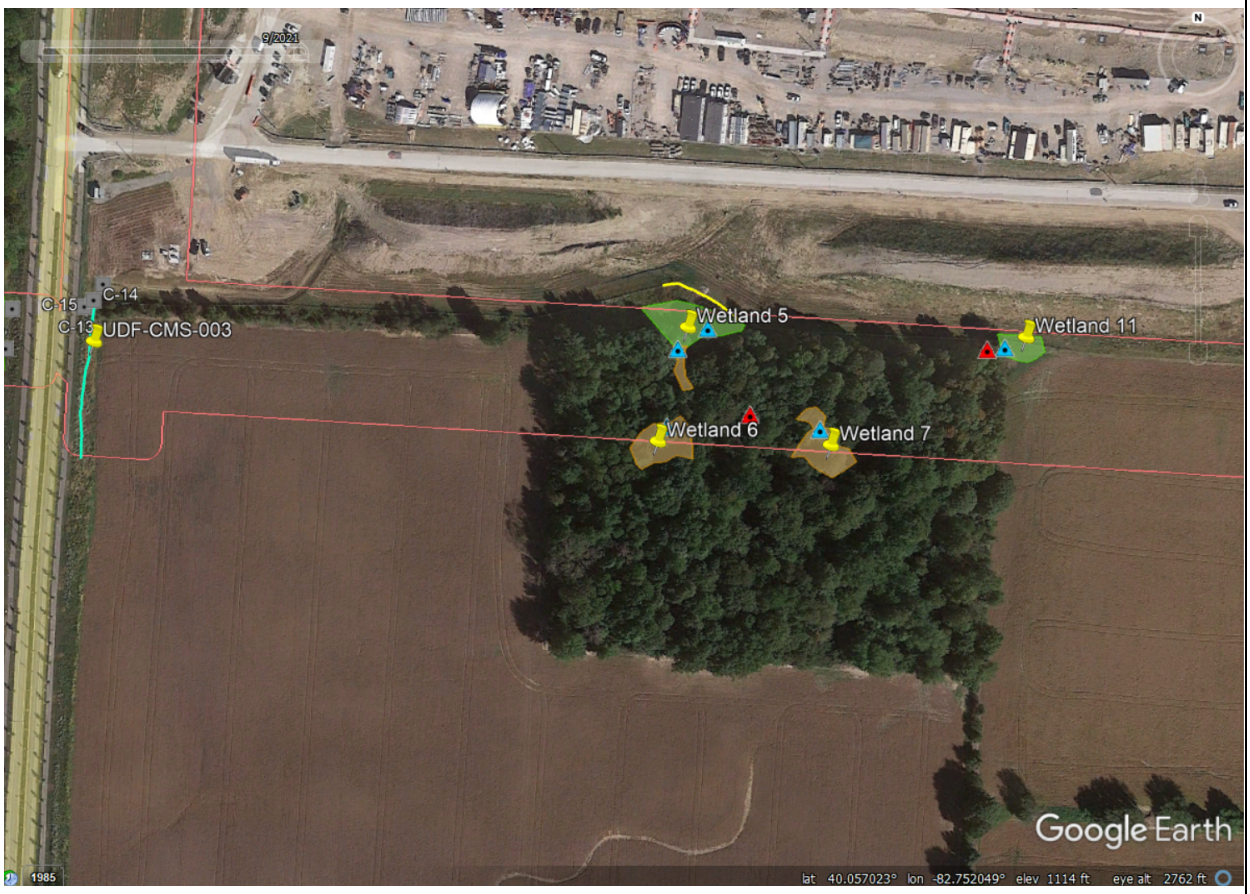


Lat/Long or UTM Coordinate	40.057097, -82.750953
USGS Quad Name	New Albany
County	Licking
Township	New Albany
Section and Subsection	NA
Hydrologic Unit Code	050600011503
Site Visit	5/11/2022
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	
Soil Survey	
Delineation report/map	

Name of Wetland: W-CMS-007	
Wetland Size (acres, hectares): 0.118 acres	

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

N



Comments, Narrative Discussion, Justification of Category Changes:

The portion within the study area was found to consist of a PFO community. Forested wetland dominated byred maple, American elm, blue beech, reed canary grass, golden ragwort.

Final score : 49	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		X
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		X

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Wetland 7

Site: Anguin-Brie 138kV R0	Rater(s): C.Stallone	Date: 5/11/2022

Field Id:
W-CMS-007

Metric 1. Wetland Area (size).

max 6 pts	subtotal
	1

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

0.118 acres delineated within survey area

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
14	15

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [x] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [x] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

max 30 pts.	subtotal
10.0	25.0

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [x] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [x] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [x] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track — access road created in 2008
- [ ] dredging
- [ ] Other:

Metric 4. Habitat Alteration and Development.

max 20 pts.	subtotal
14	39

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [x] Recovered (3)
- [ ] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [x] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [x] Recovered (6)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [x] selective cutting
- [x] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

39 subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 7

Site: Anguin-Brie 138kV R0	Rater(s): C.Stallone	Date: 5/11/2022

Field Id:
W-CMS-007

	39
	subtotal this page
0	**39**
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Praires (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 5 Qualitative Rating (-10)

10	**49**
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [ ] Emergent
- [ ] Shrub
- [3] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [x] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1) Phalaris arundinacea
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [2] Vegetated hummucks/tussucks
- [2] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species
Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generallyw/o presence of rare threatened or endangered spp to
A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	0	Absent
	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	3	Present in moderate or greater amounts and of highest quality

Category 2

49	**GRAND TOTAL(max 100 pts)**

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	10	
	TOTAL SCORE	49	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score *less* than the Category 2 scoring threshold (*excluding* gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	(YES) Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60683729

W-CMS-005

Date:

May 11, 2022

Description:

PFO wetland

Category 2

Facing North

W-CMS-005

Date:

May 11, 2022

Description:

PFO wetland

Category 2

Facing East

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60683729

W-CMS-005	
Date: May 11, 2022 **Description:** PFO wetland Category 2 Facing South	

W-CMS-005	
Date: May 11, 2022 **Description:** PFO wetland Category 2 Facing West	

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PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60683729

W-CMS-005 **Date:** May 11, 2022 **Description:** PFO wetland Category 2 Facing Soils	

W-CMS-007 **Date:** May 11, 2022 **Description:** PFO wetland Category 2 Facing North	

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PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60683729

W-CMS-007	
Date: May 11, 2022 **Description:** PFO wetland Category 2 Facing East	

W-CMS-007	
Date: May 11, 2022 **Description:** PFO wetland Category 2 Facing South	

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PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60683729

W-CMS-007

Date:

May 11, 2022

Description:

PFO wetland

Category 2

Facing West

W-CMS-007

Date:

May 11, 2022

Description:

PFO wetland

Category 2

Facing Soils

APPENDIX D

UPLAND DRAINAGE FEATURE PHOTOGRAPHIC RECORD

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PHOTOGRAPHIC RECORD
Upland Drainage Feature Photographs

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60708642

UDF-CMS-003	
Date: May 11, 2022	
Description: Upland Drainage Feature Facing Upstream	

UDF-CMS-003	
Date: May 11, 2022	
Description: Upland Drainage Feature Facing Downstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Upland Drainage Feature Photographs

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Extension and Anguin- Brie Cut-In Project	60708642

UDF-CMS-003

Date:

May 11, 2022

Description:

Upland Drainage Feature

Facing Substrate

APPENDIX E

HABITAT PHOTOGRAPHIC RECORD

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138kV Extension and Anguin- Brie Cut-In Project	60708642

PH-01	
Date: May 11, 2022 **Description:** Urban Facing North	

PH-02	
Date: May 10, 2022 **Description:** Agriculture/Row Crops Facing West	

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PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138kV Extension and Anguin- Brie Cut-In Project	60708642

PH-03 **Date:** May 10, 2022 **Description:** Urban Facing South	

PH-04 **Date:** May 11, 2022 **Description:** Woodland Facing South	

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PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138kV Extension and Anguin- Brie Cut-In Project	60708642

PH-05

Date:

May 11, 2022

Description:

Stream/Wetland

Facing East

APPENDIX F

2023 JOINT GUIDANCE

OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING MAY 2023

This document has been updated with new state guidance for the 2023 field season.

This guidance applies to state recommendations only. Contact the USFWS to determine if federal consultation is also necessary to comply with federal law.

Agency Contacts:

ODNR-DOW Permit Coordinator: Wildlife.Permits@dnr.ohio.gov, (614) 265-6315
ODNR-DOW Bat Survey Coordinator: Eileen Wyza, Eileen.Wyza@dnr.ohio.gov, (614) 265-6764
USFWS OHFO Endangered Species: Angela Boyer, angela_boyer@fws.gov, (614) 416-8993, ext.122

Covid-19 Guidance:

Surveyors should follow all covid protocols put in place by their agency. All surveyors should wear masks when handling bats and anyone exhibiting symptoms of covid-19 should not participate in bat surveys.

Ohio Mist-net Surveys:

This document serves as guidance for bat mist netting activities in Ohio and does not supersede any requirements listed on your permits or facility certificate. All permit conditions must be strictly adhered to for permits to be valid and for renewal of permits beyond the existing year.

Due to the presence of White-nose Syndrome (WNS), mist-netting in Ohio must be conducted between June 1 and August 15 unless stated otherwise in your state permit. The ODNR Division of Wildlife (ODNR-DOW) and U.S. Fish and Wildlife Service (USFWS) Ohio Field Office (OHFO) have determined that delaying netting activities until June 1 will provide additional recovery time for bats affected by WNS. For presence/probable absence surveys, netting will not be accepted outside of the June 1 - August 15 timeframe.

To assess project areas for presence or probable absence of the state and federally listed Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) during summer residency, the USFWS developed the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023). This protocol, **with minor modifications referenced below**, can also be used in Ohio for the 2023 field season and includes surveying for the state-listed little brown bat (*Myotis lucifugus*) and tricolored bat (*Perimyotis subflavus*).

According to the updated federal range-wide guidelines, presence/probable absence net surveys for northern long-eared bats shall incorporate either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. Presence/probable absence net surveys for Indiana bats shall incorporate six net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear

projects. If a project area is eligible for a presence/probable absence survey for both Indiana bats and northern long-eared bats, following the northern long-eared bat level of effort will qualify as a presence/ probable absence survey for both species. However, if a project area is eligible for a presence/absence survey for both species, following the Indiana bat level of effort will not qualify the survey for a northern long-eared bat presence/ probable absence survey. Please note that the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) requires that a minimum of two (2) biologists (e.g., one permitted and one technician) must be on-site for every four (4) net-sets being operated. Exceptions to on-site minimum staffing levels may be allowed under extenuating circumstances, provided written justification is included in the proposed survey study plan and subsequently approved by the OHFO and ODOW.

Due to the reclassification of the northern long-eared bat on March 31, 2023, the previous northern long-eared bat 4(d) rule has been nullified. There is a new online tool in the USFWS's Information for Planning and Consultation (IPaC) website that allows project proponents to utilize a determination key (Dkey) for the northern long-eared bat. **The Dkey cannot be used to replace consultation with ODNR-DOW.** Project proponents should coordinate directly with the ODNR-DOW and the OHFO for project technical assistance for all federally listed species, including the Indiana bat and northern long-eared bat.

The tricolored bat is listed as endangered by ODNR-DOW. Additionally, the USFWS published a proposed rule to list the tri-colored bat as endangered on September 14, 2022. The USFWS is scheduled to publish a final rule on the tricolored bat's status by the end of September 2023 which could affect future project development. Therefore, in anticipation of this listing we recommend that project proponents coordinate with the OHFO in addition to ODNR-DOW to determine if the project could benefit from formal coordination with USFWS for tricolored bat. The USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) allows presence/absence surveys for the tricolored bat that use the northern long-eared bat level of effort.

Exception for Ohio mist-net surveys: All presence/absence surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the maximum net nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Ohio Acoustic Surveys:

Acoustic bat surveys for presence/absence will be accepted by ODNR-DOW for the 2023 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) with the following exceptions:

- Ohio survey dates are June 1 – August 15, 2022
- After conducting automated analyses using one or more of the currently available 'approved' acoustic bat ID programs[1], qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis, M. septentrionalis*[2]*, M. lucifugus*[2]*,* and *P. subflavus*[2]) must be completed.
- **All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the maximum acoustic nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.**

At a minimum, for each detector site/night a program considered presence of state-listed bats likely, review all files (including no IDs) from that site/night. If more than one acoustic bat ID program is used, qualitative analysis must also include a comparison of the results of each program by site and night.

[1] https://www.fws.gov/media/indiana-bat-summer-survey-guidance

[2] State listing as endangered effective July 1, 2020

Combined Mist-netting and Acoustic Surveys:
ODNR-DOW will accept the USFWS pilot survey option of combining mist-netting and acoustic surveys for traditional survey sites (e.g., 123-acre area) detailed in Appendix I of the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (2023). All presence/absence combined mist-net and acoustic surveys conducted for state listed bat species should follow the maximum level of effort set forth by the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Before Field Season:

- Anyone surveying bats using mist-nets in the state of Ohio must obtain a federal permit as well as a state scientific collection permit. The federal permit should include both the Indiana bat and the northern long-eared bat.
- Your ODNR-DOW permit consists of two documents: a Scientific Collector (Wild Animal) Permit and an endangered species letter signed by the Chief of the Division of Wildlife (in addition to your federal permit). Both ODNR-DOW documents must be obtained prior to field work and kept with you and any sub-permittees during field work.

During Field Season:

- Prior to initiation of field work (a minimum of two weeks in advance), permittees must provide proposed mist netting plans to USFWS and ODNR-DOW in the form of an e-mail letter to the USFWS OHFO and copy to the ODNR-DOW Bat Survey Coordinator. Plans must be reviewed and approved by USFWS OHFO and ODNR-DOW before ANY surveys take place. Study plans must specify objectives, location details, dates of proposed work, and all other relevant details. **Study plans must also include a USFWS Project Code. Project Codes can only be obtained by requesting an official species list through the USFWS's Information for Planning and Consultation (IPaC) website (https://ipac.ecosphere.fws.gov/).** When handling bats, you must strictly adhere to the current WNS Decontamination Protocol (current version can be found at https://www.whitenosesyndrome.org/topics/decontamination). Clothing, boots, gear, and equipment should all be thoroughly decontaminated between nights, as well as between netting sites.
- Request bat bands at least two weeks in advance of needing them. Bat bands can be obtained by e-mailing the ODNR-DOW Bat Survey Coordinator with how many bands are needed, current permit number, sizes, and a mailing address. Bands will not be issued until your permits are valid. We have two sizes of bands—2.4 mm and 4.2 mm. The 2.4 mm split metal bat ring made of aluminum alloy is suitable for banding small bats. This band must be placed on all captured Indiana, northern long-eared, little brown, and tricolored bats. The larger 4.2 mm band is suitable for silver-haired (*Lasionycteris noctivagans*), big brown (*Eptesicus fuscus*), and hoary (*Lasiurus cinereus*) bats. You must band all Indiana, northern long-eared, little brown, and tricolored bats with ODNR-DOW bands; therefore, you should not be in the field without the 2.4 mm sized band.
- Only individuals who are named on the ODNR-DOW endangered species letter portion of the permit and on the corresponding federal bat permit may conduct and oversee mist-net surveys. Trained assistants may work on permitted bat activities under the direct and on-site supervision of a named permittee. All bat IDs must be verified by a named permittee. If an Indiana bat and/or northern long-eared bat is captured, the permittee shall notify the USFWS and the ODNR-DOW Bat Survey Coordinator referenced above within 48 hours via email. If a little brown bat or tricolored bat is captured, notify the ODNR-DOW Bat Survey Coordinator only within 48 hours via email. Reports of listed bat captures should include specific information such as spatial location of capture, band information, radio-transmitter frequency information, sex, reproductive status, and age of individual.
- For presence/absence surveys, ODNR-DOW requires all female and juvenile state endangered and threatened bat species (Indiana, northern long-eared, little brown, and tricolored bat) be radio-tracked if

caught, in accordance with methods outlined in Appendix D of USFWS 2022 Range-wide Indiana Bat Summer Survey Guidelines.

• If you are taking any biological samples (tissue, fur, blood, etc.), this must be specifically authorized in your state and federal permits and noted in your survey proposal.

After Field Season:

By March 15, you must submit your final ODNR-DOW report(s) from the previous summer. You are not required to fill out the ODNR-DOW Wildlife Diversity Bat Excel Spreadsheet; instead, please forward your USFWS Midwestern US Spreadsheet (found here: https://www.fws.gov/media/bat-reporting-spreadsheets-2020-2021) to the ODNR-DOW Bat Survey Coordinator and ODNR-DOW Permit Coordinator and include your state permit number along with an electronic copy of the project report. Electronic summaries emailed during the field season are NOT considered as full compliance of this reporting requirement.

Ohio Environmental Review Recommendations for projects involving disturbance near potential/known bat hibernacula (cliffs, caves, mines) or tree cutting:

Step 1: Coordinate with Ohio Division of Wildlife (DOW) regarding existing records for state-listed endangered bat summer and/or winter occurrence information. Potential hibernacula found during a habitat assessment must address possible suitability for Indiana bats, northern long-eared bats, tricolored bats, and little brown bats.

If project site contains a known bat hibernaculum(a) –

- For state-listed endangered species other than the Indiana bat and northern long-eared bat, a recommendation of 0.25-mile tree cutting buffer around all known entrances to protect existing conditions at the hibernaculum(a). The U.S. Fish and Wildlife Service (USFWS) should be contacted for guidance on projects occurring within 5 miles of known or potential Indiana bat and/or northern long-eared bat hibernacula. If the project involves subsurface disturbance, consultation with DOW is required.
- Limited tree cutting may be permitted within the buffer. Coordinate with DOW.

If a project site does not contain known bat hibernaculum(a)

- Conduct a desktop habitat assessment of the project area. Tools such as the ODNR Mines of Ohio Viewer, Karst Interactive Map, topographic maps, aerial photos, historical records, etc. should be used to determine if there are any potential caves, mines, karst features, rock ledges, or other features that may serve as potential hibernacula.
  - If no such features are found, proceed to Step 2.
  - If potential hibernacula are found during the desktop assessment:
    - Assume bats are using these hibernacula and refrain from clearing trees from March 15-November 15

-Or-

- Conduct a field habitat assessment to determine if a potential hibernaculum(a) is present within the action area. We encourage impacts to ledges and rock outcroppings be avoided. If impacts cannot be avoided, features should be evaluated for potential roosting characteristics such as recesses, overhangs, and crevices.
- **NOTE**: The USFWS Range-wide Indiana Bat Guidelines, Appendix H, contains instructions for completing a habitat assessment, but only includes criteria for Indiana bat hibernacula.

Step 2: When conducted, a presence/absence survey must follow current DOW guidelines.

Step 3: If a state-listed endangered bat is captured or recorded during the survey:

- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 5 miles (or 2.5 miles for tricolored bats) of the capture site if a roost is not located.
- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 2.5 miles of a roost tree if located.

If no state-listed endangered bat is captured or recorded during the survey:

- Summer tree cutting may proceed for 5 years before a new survey is needed under state guidance.

Limited summer tree cutting guidance for bats that are only state-listed endangered: Limited tree cutting in summer may be permitted after consultation with DOW, but clearing trees with the following characteristics should be avoided unless they pose a hazard: dead or live trees of any size with loose, shaggy bark; crevices, holes, or cavities; clusters of dead leaves; live trees of any species with DBH ≥ 20".

FREQUENTLY ASKED QUESTIONS

When does the ODNR-DOW Bat Survey protocol have to be used?

This protocol should be used anytime Indiana bat, northern long-eared bat, little brown bat, or tricolored bat summer presence/probable absence surveys are conducted in the state of Ohio.

How many detector nights are required for presence/probable absence acoustic surveys?

As described in the current USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines:

Level of effort for all state-listed endangered bat species including Indiana bat and northern long-eared bats: Follow maximum detector nights as outlined in the federal guidance (for northern long-eared bat).

Northern Long-eared Bat Level of Effort:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 14 detector nights per 123 acres (0.5 km^2) of suitable summer habitat.
At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:
- 4 detectors for 3 nights and 1 detector for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 7 nights each (can sample the same location or move within the site)
- 1 detector for 14 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

Indiana Bat Level of Effort:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 10 detector nights per 123 acres (0.5 km^2) of suitable summer habitat.
At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:
- 5 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 5 nights each (can sample the same location or move within the site)
- 1 detector for 10 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

How many net surveys are required for presence/probable absence?

Level of effort for all state-listed endangered bat species including Indiana bat and northern long-eared bats: Follow maximum net nights as outlined in the federal guidance (for northern long-eared bat).

Net surveys for northern long-eared bat presence/probable absence shall incorporate, at a minimum, either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This does not allow for two net nights on a single night for surveys.

Net surveys for Indiana bat presence/probable absence shall incorporate, at a minimum, either six net nights net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This

does not allow for two net nights on a single night for surveys.

How long are the results of the surveys valid for an assessment of an area?

Mist-net or acoustic surveys documenting probable absence of state-listed endangered bats are valid for five years.

When can acoustic or net surveys occur in Ohio?

In Ohio, acoustic or net surveys may only be conducted from June 1 through August 15 unless indicated otherwise in your state permit. Any surveys outside of the June 1 - August 15 timeframe cannot be used in Ohio to assess the presence/probable absence of state-listed bats.

Can a presence/probable absence survey be conducted within a known Indiana bat and/or northern long-eared bat capture/detection buffer?

Surveys generally cannot be used to document presence/probable absence of state-listed endangered bats where presence of the species has already been confirmed by prior surveys.

What if a project is proposing to clear trees between April 1 and September 30 when bats may be present but no bat records exist in the project area?

Any Ohio project that is not within a known bat record buffer, and tree clearing between April 1 and September 31 is being proposed, may have a presence/probable absence survey conducted between June 1 and August 15 following the range-wide guidance. If a presence/probable absence survey is not performed, presence of listed bats is assumed.

How does take of northern long-eared bats differ from Indiana bats?

Under Ohio law, there is no exemption for take of any listed bat species.

Where do I get bands?

If you need bands, email the ODNR-DOW Bat Survey Coordinator at least two weeks in advance with your current ODNR permit number, how many bands in each size (2.4 and 4.2 mm) you will need this season, and a current address to ship the bands.

Do I have to band every bat?
No, currently this is optional. However, you are required as per your state permit to band all Indiana, northern long-eared, little brown, and tricolored bats.

MACY 138 KV STATION PROJECT

LICKING COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:
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Project #: 60704092, 60708618

September 2023

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1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing the construction of a new substation and to install a new 0.15-mile greenfield 138 kilovolt (kV) transmission line extension from the QTS Justice Substation (Customer Substation) to the proposed Macy Substation, as part of the Macy 138 kV Station (Project) in Licking County, Ohio (OH). The survey area associated with this report for the Project is located on the New Albany, OH United States Geological Survey (USGS) 7.5-minute topographical quadrangle as displayed on the Project Overview Map (**Figure 1**).

Due to the active construction activities by others within the vicinity of the Project, a previously completed EMHT survey area overlaps with the AECOM Project survey area, see **Figure 2 and 3**. Additionally, a wetland conservation easement overlaps the AECOM Project survey area and will be avoided during construction due to existing wetland protections, see **Figure 2 and 3**. AECOM field verified all EMHT features within the wetland conservation easement and EMHT survey area, with the exception of W-CRW-001 (EMHT Wetland A) located outside the AECOM Project survey area. Regarding the wetland (W-CRW-001/EMHT Wetland A), AECOM confirmed the current boundaries of the previous EMHT delineation within the extent of AECOM Study Area only. Only features that intersect the Project survey area have been included within this report.

The purpose of the field survey was to assess the presence of aquatic resources and possible “waters of the United States” (WOTUS) that occur within the proposed Project area. Secondarily, land uses were also recorded to classify and characterize potential habitat for rare, threatened, and endangered (RTE) species. This report will be used to assist AEP Ohio Transco’s efforts to identify potential WOTUS and RTE species habitat present within the proposed Project area to avoid or minimize impacts during construction activities.

2.0 METHODOLOGY

The field survey was conducted within a 9.21-acre area associated with the northern extent of the customer owned parcel, that contains both the proposed location of the Macy 138 kV Station and the 0.15-mile greenfield transmission line. Prior to conducting field surveys, digital United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, USGS National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) 100-year floodplain data, and USGS 7.5-minute topographic maps were reviewed to identify the occurrence and location of potential wetland areas and/or streams.

Field survey activities included recording the physical boundaries of observed water features using sub-meter capable EOS Arrow Global Positioning System (GPS) units in conjunction with ArcGIS Field Maps application on iPad tablets. The GPS data was imported into ArcMap Geographic Information System software, where the data was reviewed, edited for accuracy, and compiled in a format suitable for transfer

and use by AEP Ohio Transco. Water features were delineated and assessed based upon the appropriate procedures detailed below. Land uses observed within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetative cover of the location.

2.1 WETLAND DELINEATION

The Project survey area was evaluated according to the procedures outlined in the United States Army Corps of Engineers (USACE) *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE, 2010).

During field survey activities AECOM utilized the routine on-site delineation method described in the *1987 Manual* and *Regional Supplement* that consisted of a pedestrian site reconnaissance, including identifying the vegetative communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. If a wetland was identified, AECOM completed a USACE Wetland Determination Data Form (USACE Data Form) within each unique wetland habitat to serve as a representative of the wetland hydrology, vegetative community, and soil characteristics. Adjacent to each wetland complex, AECOM completed an additional USACE Data Form as a representative of the upland community.

2.1.1 WETLAND CLASSIFICATION

Wetlands identified in the field were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.*, 1979). The unique wetland habitats were classified as palustrine emergent (PEM), palustrine forested (PFO), palustrine unconsolidated bottom (PUB), palustrine scrub-shrub (PSS), or other classifications for some wetlands; Multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation covers 30 percent or more of the substrate). Where multiple Cowardin classifications are present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation having 30% or greater coverage is used for classification.

2.1.2 WETLAND ASSESSMENT

Each delineated wetland was assessed following the Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM) (Mack, 2001). Wetland assessments utilized the 10-page ORAM form, providing a final Category rating for each wetland.

2.2 STREAM ASSESSMENT

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines the OHWM as "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" (USACE, 2005).

2.2.1 OEPA PRIMARY HEADWATER HABITAT ASSESSMENT

Stream assessments were conducted using the methods described in the OEPA's *Methods for Assessing Habitat in Flowing Waters*: *Using OEPA's Qualitative Habitat Evaluation Index (QHEI)* (Rankin, 2006) and in the OEPA's *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams associated with watershed area less than or equal to 1.0 square mile (259 hectares), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the Primary Headwater Habitat Evaluation Index (HHEI) methodology and all other streams assessed as QHEI. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manuals (OEPA, 2020) and by AECOM's professional opinion.

Streams assessed in the Project survey area were reviewed for existing OEPA Aquatic Life Use Designations per OEPA's Water Quality Standards (OAC Chapter 3745-1). Those without an existing use designation were assigned a provisional aquatic life use designation based upon habitat assessment results (Rankin, 1989; OEPA, 2020).

2.2.2 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

The OEPA has designated each watershed in the state on the basis of whether it may be ineligible for coverage under Ohio EPA's 401 Water Quality Certification (WQC) for Nationwide Permits (OEPA, 2017). Mapping provided by the OEPA illustrates the eligibility of streams in the area to fall under a Nationwide Permit for 401 certification or if an individual state WQC needs to be applied for. Impacts to streams within each watershed would then have eligibility for 401 WQC determined by the watershed category. The three categories are defined as:

Eligible: Streams within the watershed are eligible for coverage under Ohio EPA's water quality certification for the nationwide permits if all other general and regional special terms and conditions are met.

Ineligible: Projects affecting high quality streams and undesignated streams draining directly to high quality streams, as represented in the map, must undergo an individual 401 Water Quality Certification review process.

Possibly Eligible: Additional field screening procedures are required for streams in the watershed to determine appropriate eligibility. Projects affecting undesignated streams within those HUC12 watersheds that do not directly but eventually drain into high quality waters, might be eligible for coverage under the OEPA's 401 WQC for Nationwide Permits depending on the results of a field screening assessment. The

procedures for determining individual stream eligibility in this scenario are specified in Appendix D “Stream Eligibility Determination Process” of the OEPA Ohio State Water Quality Certification of the 2017 Nationwide Permit Reauthorization.

2.2.3 UPLAND DRAINAGE FEATURES

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OHWM (USACE, 2005), and are equivalent to a swale or an erosional feature as described by the USACE: “generally shallow features in the landscape that may convey water across upland areas during and following storm events. Swales usually occur on nearly flat slopes and typically have grass or other low-lying vegetation throughout the swale” (USACE, 2005).

A roadside ditch may also be documented as a UDF if it meets the “not potentially jurisdictional” characterization as described in the Office of Environmental Services *Roadway Ditch Characterization Flowchart* (Ohio Department of Transportation, 2014). This would include a ditch that originates entirely within the roadway right-of-way, has a seasonal flow regime, was not constructed to drain a wetland, and does not have hydrophytic vegetation extending more than an insignificant amount beyond its original configuration.

In addition, UDF’s (including swales, ditches, and other erosional features) are generally not WOTUS except in certain circumstances, such as relocated streams.

2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a RTE species review and general field habitat surveys within the Project Survey Area. AECOM submitted requests to Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the USFWS Ohio Ecological Services Field Office soliciting comments on the proposed Project. Responses were received on September 8, 2023, and August 18, 2023, respectively (**Appendix A).** Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of assessing potential impacts to rare, threatened, and endangered species. Land uses within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetative cover as observed during the field surveys.

AECOM conducted a desktop assessment of the Project survey area and a quarter-mile buffer around it to identify potentially occurring winter bat hibernaculum that may be present near the Project which is located

in **Appendix B**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and United States Geological Survey websites.

3.0 RESULTS

On June 7, 2023, AECOM ecologists walked the Project Survey Area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project survey area, AECOM confirmed the boundary of one EMHT wetland. The representative data form is provided in **Appendix C**, and the delineated features are discussed in detail in the following sections.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Web Soil Survey, four soil map units are mapped within the Project Survey Area (USDA NRCS, 2021a and 2021b). Of these, one was identified as hydric soils, and four soil map units were identified as having hydric inclusions. Soils indicated as hydric inclusions are not predominately hydric soils and hydric soils are more likely to be found in topographic settings. **Table 1** below provides a detailed overview of all soil series and soil map units present within the Project survey area. Soil map units located in the Project Survey Area and vicinity are shown on **Figure 2**.

TABLE 1 - SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE PROJECT SURVEY AREA

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	Ground moraines, end moraines	Yes*	Condit 5% Pewamo 3%
	BeB	Bennington silt loam, 2 to 6 percent slopes	End moraines and ground moraines	Yes*	Condit 5% Pewamo 3%
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	End moraines and ground moraines	Yes*	Condit 4% Marengo 3%
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, depressions	Yes	Pewamo 85% Condit 9%

NA = Not Applicable or Not Available; Yes* = Hydric inclusion present

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to the NWI data covering the Project location, the Project survey area does not contain any mapped NWI wetlands. The locations of the NWI mapped wetlands in the Project vicinity are shown on **Figure 2.**

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM confirmed the presence of, and modified the boundary of, one previously delineated EMHT wetland within the Project survey area. One wetland was assigned ORAM Category 2 within the Project survey area. No Category 1 or Category 3 wetlands were identified within the Project survey area. Additionally, there are delineated EMHT wetlands that are shown on **Figure 2 and 3** that are adjacent to the Project survey area, but not located within the Project survey area.

AECOM has given one wetland within the Project survey area a provisional determination of jurisdictional (non-isolated, i.e., WOTUS). Final jurisdictional status can only be determined by the USACE, and AECOM assessments are provisional. The locations and approximate extent of the wetlands identified within the Project survey area are shown on **Figure 3.** Details for each delineated wetland in the survey area are provided in Table 2. Completed USACE data forms and photographs of each wetland are provided in **Appendix C**.

TABLE 2 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROJECT SURVEY AREA

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-CRW-001 (EMHT Wetland A)	40.05768	-82.75676	No	PFO	0.10	50	2	TBD	TBD	TBD	TBD	TBD	TBD
				Total:	**0.10**							**TBD**	**TBD**

3.2 STREAM DELINEATION

During the field survey, AECOM did not identify any streams within the Project survey area.

3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs across one watershed, which was designated by 401 WQC eligibility as "Possibly Eligible," as listed in **Table 3**. OEPA stream eligibility mapping for the Project vicinity is provided on **Figure 4**.

3.3 FEMA 100 YEAR FLOODPLAINS

Mapped FEMA designated 100-year floodplains and floodways are displayed on **Figure 2**. No regulated FEMA 100-year floodplains and/or floodways are located within the Project survey area.

TABLE 3- SUMMARY OF WATERSHED 401 WQC ELIGIBILITY WITHIN THE PROJECT SURVEY AREA

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050600011503	Headwaters Blacklick Creek	Possibly Eligible	0
		Total	**0**

3.4 PONDS

No ponds were observed within the Project survey area.

3.5 UPLAND DRAINAGE FEATURES

No upland drainage features were observed within the Project survey area,

3.6 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. The Project survey area consists of Pasture/Hay Fields, Barren/Disturbed, and Streams/Wetlands Habitat as described in **Table 4**. Vegetative communities are depicted visually on aerial photography in **Figure 5**. Representative photographs of the vegetative communities in the Project area are provided as **Appendix D**.

TABLE 4- VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Pasture/Hay Fields	Cattle and/or horse pasture, and hay fields, dominated by seasonally mowed and grazed areas of grasses and forbs.	8.63	93.70
Barren/Disturbed	Recently disturbed by construction or similar activities and land has yet to recover resulting in little to no vegetation.	0.48	5.21
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey area for the Project.	0.10	1.09
	Totals:	**9.21**	**100%**

3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

On June 14, 2023, coordination letters were sent to USFWS and the ODNR Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to threatened and endangered species. Responses were received from the USFWS on August 18, 2023, and from the ODNR on September 8, 2023. Correspondence letters from the USFWS and ODNR for the Project are included as **Appendix A**.

Regarding state and federal listed threatened and endangered species that may occur within the Project vicinity, a total of three species were identified by the USFWS and six species were identified by the ODNR. Based on the review of these species and the habitat identified within the Project Survey Area, it is not anticipated that the project would adversely affect any of the species or their habitats identified within **Table 5**.

Table 5 provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project Survey Area are provided as **Appendix D**.

TABLE 5
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts
Mammals							
Indiana Bat (*Myotis sodalis*)	Endangered	Endangered	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*). .	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Northern Long-eared Bat (*Myotis septentrionalis*)	Threatened	Endangered	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Additionally, the ODNR indicated that there is a known presence of this species within the Project area and summer surveys would not constitute a presence or absence of this species. Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Little brown bat (*Myotis lucifugus*)	Endangered	NA	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.

TABLE 5
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts
Tricolored bat (*Perimyotis subflavus*)	Endangered	Proposed	<u>Summer habitat</u> During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. <u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	<u>Summer habitat</u> Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. <u>Hibernaculum(a)</u> No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance*).	April 1 – September 30	<u>Summer habitat</u> ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). <u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	<u>Summer habitat</u> No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 15. <u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Fish							
Lake chubsucker *(Erimyzon sucetta)*	Threatened	None	Perennial Streams	Project area does not contain any perennial streams of sufficient size.	N/A	Due to the location, and the fact that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No in-water work is proposed; therefore, no further coordination required.
Birds							
Northern harrier (*Circus hudsonius*)	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	Based on field reviews, the Project area does not contain continuous habitat greater than 2-acres; subjected to “edge effect” or increase predation due to proximity of tree lines; and area is highly urbanized/industrial.	April 15 to July 31	Habitat should be avoided during the bird’s nesting period between April 15 through July 31. If habitat will not be impacted, this Project will not likely impact species.	No

*2023 Joint Guidance – refers to the 2023 ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing, a copy of the guidance is provided within **Appendix E** of this report.

Protected Species Agency Summary

Based on general observations during the ecological survey, forested clearing is not anticipated. If tree clearing is required, the ODNR/USFWS recommends implementations of seasonal tree clearing between October 1 and March 31 to avoid adverse effects to Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. ODNR confirmed a known presence in the vicinity of the Project survey area for the northern long-eared bat. The Indiana bat, little brown bat, and tricolored bats are not known to be present in the vicinity of the Project survey area. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for Indiana bat, northern long-eared bat, little brown bat and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project survey area for the northern long-eared bat If summer tree clearing is needed, additional coordination will be completed with ODNR/USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2023 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2023 Joint Guidance; **Appendix E**) within 0.25 miles of the Project area and no caves, mines, and/or karst features were identified. As per ODNR and USFWS guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment find potential habitat within 0.25 miles of the Project survey area. Therefore, no further coordination was necessary with either the ODNR and/or USFWS regarding the listed bat species. Results of the desktop habitat assessment have been included within **Appendix B**.

No impacts are anticipated for the fish, mussels, birds, or amphibians as no in-water work is proposed as part of the Project or species habitat is present. Additionally, the potential for nesting habitat for the Northern Harrier was absent based on field/desktop review of the project area. The absence of habitat was due to active agricultural activities as well as fragmented habitat, thus lacking contiguous open field habitat to support nesting Therefore, no further coordination regarding this listed species is necessary concerning this Project.

4.0 SUMMARY

The ecological survey of the Project survey area confirmed the boundary of one previously delineated EMHT wetland. The wetland identified was a Category 2 wetland and its boundary is provided on **Figure 2 and Figure 3**. This wetland has been given a jurisdictional status of non-isolated. No streams were observed within the Project survey area at the time of survey. The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey area provided in **Figure 3**. Areas that fall outside of the Project survey area were not evaluated in the field and not included in the reporting of the survey.

Of the six state and/or federally listed threatened and endangered species within range of the Project survey area, none of the species or their critical habitat were identified for the fish or bird species. The young successional trees may provide suitable habitat for the bat species; however, no tree clearing is anticipated to be required for this Project. Therefore, no further coordination is anticipated to be required to the USFWS and/or ODNR.

The information contained in this Ecological report is for a survey area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

5.0 REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, U.S. Fish and Wildlife Service, Washington, D.C.

Environmental Laboratory. 1987. U.S. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station: Vicksburg, Mississippi.

Federal Emergency Management Agency (FEMA). 2016 National Flood Hazard for the State of Ohio. https://msc.fema.gov/portal Published December 1, 2022.

Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms. OEPA Technical Report WET/2001-1. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.

Ohio Department of Transportation. 2014. Roadway Ditch Characterization Flowchart. From: Ecological Manual, April 2014. Office of Environmental Services.

Ohio Division of Wildlife and United States Fish and Wildlife Service (USFWS) (OH-Field Office) Joint Guidance for Bat Surveys and Tree Clearing. Published May 2023.

Ohio Environmental Protection Agency (OEPA). 2017. Section 401 Water Quality Certification for the 2017 Nationwide Permits. Appendix D Stream Eligibility Determination Process. Effective March 17, 2017. Ohio Environmental Protection Agency, Division of Surface Water, 401 Water Quality Certification and Isolated Wetland Permitting Section, Columbus, Ohio.

OEPA. 2017. 401 Water Quality Certification for the Nationwide Permits Stream Eligibility Web Map (2017 Reissuance). https://data-oepa.opendata.arcgis.com/datasets/401-water-quality-certification-for-nationwide-permits

OEPA. 2020. Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. May 2020. 130 pp.

Rankin, Edward T. 1989. The Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application. Ohio EPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.

Rankin, Edward T. 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI). OEPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.

United States Army Corps of Engineers (USACE). 2005. Regulatory Guidance Letter No. 05-05: Guidance on Ordinary High Water Mark Identification.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, J. F. Berkowitz, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USACE. 2020. National Wetland Plant List, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH. http://wetland_plants.usace.army.mil/

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 2021a. National Hydric Soils List. http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed June 2023.

USDA NRCS. 2021b. Web Soil Survey (GIS Shapefile). http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed June 2023.

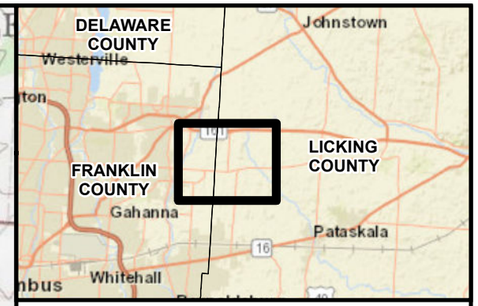
USFWS. 2023. National Wetlands Inventory Geodatabase for Ohio. Available online at http://www.fws.gov/wetlands/Data/Mapper.html. Accessed June 2023.

United States Geological Survey. 2016. National Hydrography Dataset, Ohio Statewide Geodatabase. Published August 2016. Earth Science Information Center, USGS, Reston, VA,

Macy 138kV Station
40.057239
-82.755911

PLAIN TOWNSHIP
JERSEY TOWNSHIP
FRANKLIN COUNTY
LICKING COUNTY
New Albany
Jersey
JEFFERSON TOWNSHIP
URBAN TOWNSHIP
JERSEY TOWNSHIP
URBAN TOWNSHIP

DUBLIN
GRANVILLE ROAD
PIPELINE
BEECH ROAD
KITZMILLER ROAD
BABBITT ROAD
MORSE ROAD
CLARK STATE ROAD
MC OWEN ROAD
Golf Course
Radio Tower
BM 1069
BM 1137
Universalist Ch
South Fork



Legend

- Station
- Project survey area
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 1,000 2,000 4,000

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Station Project

FIGURE 1
PROJECT OVERVIEW

DATE: 8/21/2023	1 INCH = 2,000 FEET
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JOB NO.: 60704092	AECOM

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Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60704092_AEP_MacySubstation\2_MXDs\1_WDRMacySubstation_WDR_Fig1_20230623.mxd

PFO1C
PFO1C
BeB
Cen1B1
Pe
EMHT
Wetland A
W-CRW-001
(EMHT Wetland A)
BeA
Beech Rd SW
LICKING
COUNTY
Macy 138kV Station
40.057239
-82.755911
JERSEY
TOWNSHIP
EMHT
Existing
Wetland
Mitigation
Cen1B1
BeB
050600011503
Headwaters
Blacklick Creek
Beech Rd SW
Cen1B1

FRANKLIN
COUNTY
Beech Rd SW
LICKING
COUNTY

Legend

- Station
- Wetland Data Point
- Upland Data Point
- Culvert
- Delineated PFO Wetland
- Proposed Substation Fence
- Project survey area
- EMHT Completed Survey Area
- EMHT Delineated Wetland
- Conservation Easement
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)
- BeA: Bennington silt loam, 0 to 2 percent slopes
- BeB: Bennington silt loam, 2 to 6 percent slopes
- Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes
- Cen1B1: Centerburg silt loam, 2 to 6 percent slopes

N

0 50 100 200

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Station Project

FIGURE 2
SOIL MAP AND
NATIONAL WETLAND INVENTORY MAP

DATE: 10/9/2023	1 INCH = 100 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60704092	AECOM

Date Saved: 10/9/2023
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Legend

- Station
- Wetland Data Point
- Upland Data Point
- Culvert
- Proposed Substation Fence
- Contour (2ft)
- Delineated PFO Wetland
- Project survey area
- Conservation Easement
- EMHT Completed Survey Area
- EMHT Delineated Wetland
- HUC 12 (USGS)

N

0 50 100 200

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Station Project

FIGURE 3
WETLAND DELINEATION AND STREAM ASSESSMENT MAP

DATE: 10/9/2023	1 INCH = 100 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60704092	AECOM

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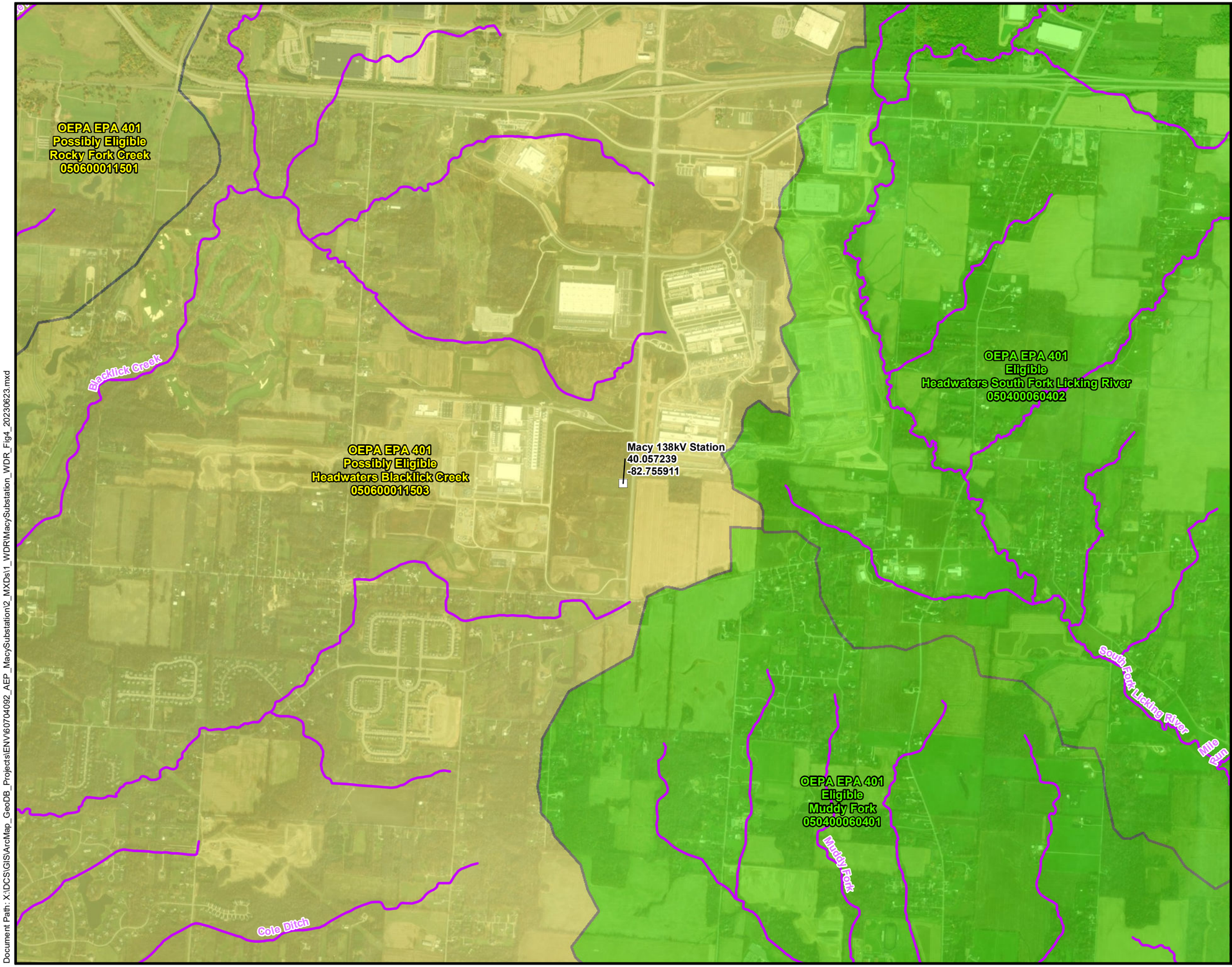

Legend

- Station
- NHD Stream (USGS)

OEPA Eligibility:

- Eligible
- Possibly Eligible

N

0 1,000 2,000 4,000

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Station Project

FIGURE 4
STREAM ELIGIBILTY MAP

DATE: 8/21/2023	1 INCH = 2,000 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60704092	AECOM

Date Saved: 8/21/2023
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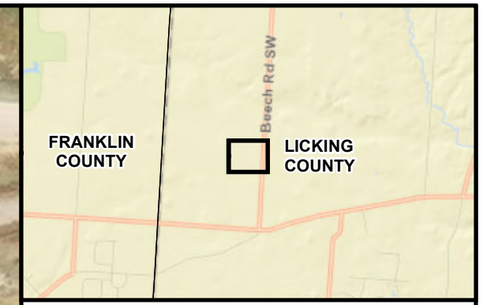
PH-03
PH-06
PH-04
Macy 138kV Station
40.057239
-82.755911
PH-01
PH-02
PH-05
Beech Rd SW
Beech Rd SW



Legend

- Photo Location
- Station
- Proposed Substation Fence
- Project survey area

Vegetative Community Type

- Barren/Disturbed
- Pasture/Hay Fields
- Streams/Wetlands

N

0 50 100 200

Feet

AMERICAN ELECTRIC POWER

Macy 138kV Station Project

FIGURE 5
VEGETATIVE COMMUNITIES ASSESSMENT MAP

DATE: 10/9/2023	1 INCH = 100 FEET
CREATED BY: CJT	CHECKED BY: AF
JOB NO.: 60704092	AECOM

Date Saved: 10/9/2023
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APPENDIX A

AGENCY CORRESPONDENCE

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

August 18, 2023

Project Code: 2023-0088649

Dear Mr. Joshua Holmes:

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 ≥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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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). 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.

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.

Sincerely,

Keith Lott
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

September 8, 2023

Joshua Holmes
AECOM
707 Grant Street, 5th Floor
Pittsburgh, Pennsylvania 15219

Re: 23-0923; Macy Substation and Macy-Justice Cust DP#1 T Line

Project: The proposed project involves the construction of a new greenfield substation and the installation of a new 0.15-mile greenfield 138kV transmission line extension from the QTS Justice Substation to the proposed Macy Substation.

Location: The proposed project is located in Jersey Township, Licking 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 project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However,

limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

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 the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. 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 this or other aquatic species.

The project is within the range of the northern harrier (*Circus hudsonius*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, 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.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

APPENDIX B

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054
ajtoohey@ aep.com

June 14, 2023

Attention: Mr. John Kessler
Ohio Department of Natural Resources
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

Via email: environmentalreviewrequest@dnr.state.oh.us; NHDRequest@dnr.state.oh.us

Reference: Request for Technical Assistance, Macy Substation and Macy-Justice Cust DP#1 T Line, Licking County, Ohio

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete a review for the proposed Macy Substation and Macy-Justice Cust DP#1 T Line (Project) in Licking County, Ohio. The project is composed of two components The Macy Substation and the Macy-Justice Cust DP#1 T Line: The purpose of the Macy Substation component is to build a new greenfield substation (per a customer request. The purpose of the Macy-Justice Cust DP#1 T Line component is to install a new 0.15-mile greenfield 138kV transmission line extension from the proposed Macy Substation to the proposed Customer Substation. The Project study area is located on the USGS New Albany, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on the Project Topographic Overview Map (Figure 1).

AECOM completed a desktop review of publicly available data to identify underground voids which could be potential hibernation sites for overwintering bats (hibernacula) within 0.25-miles of the Project area. The data sources utilized include USGS topographical maps, aerial photography, and ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figure 1 and 2. Based on the available desktop resources, there are no underground and historic surface mines or karst features located within 0.25-mile of the Project. Therefore, potential hibernaculum is not anticipated to be within range of the Project area.

Please provide us with the results of the ODNR's environmental review, including results of the ODNR Natural Heritage Database search, at your earliest convenience. If you have questions or need additional information regarding the Project, please contact me at the phone number or email below. Thank you for your assistance with this request.

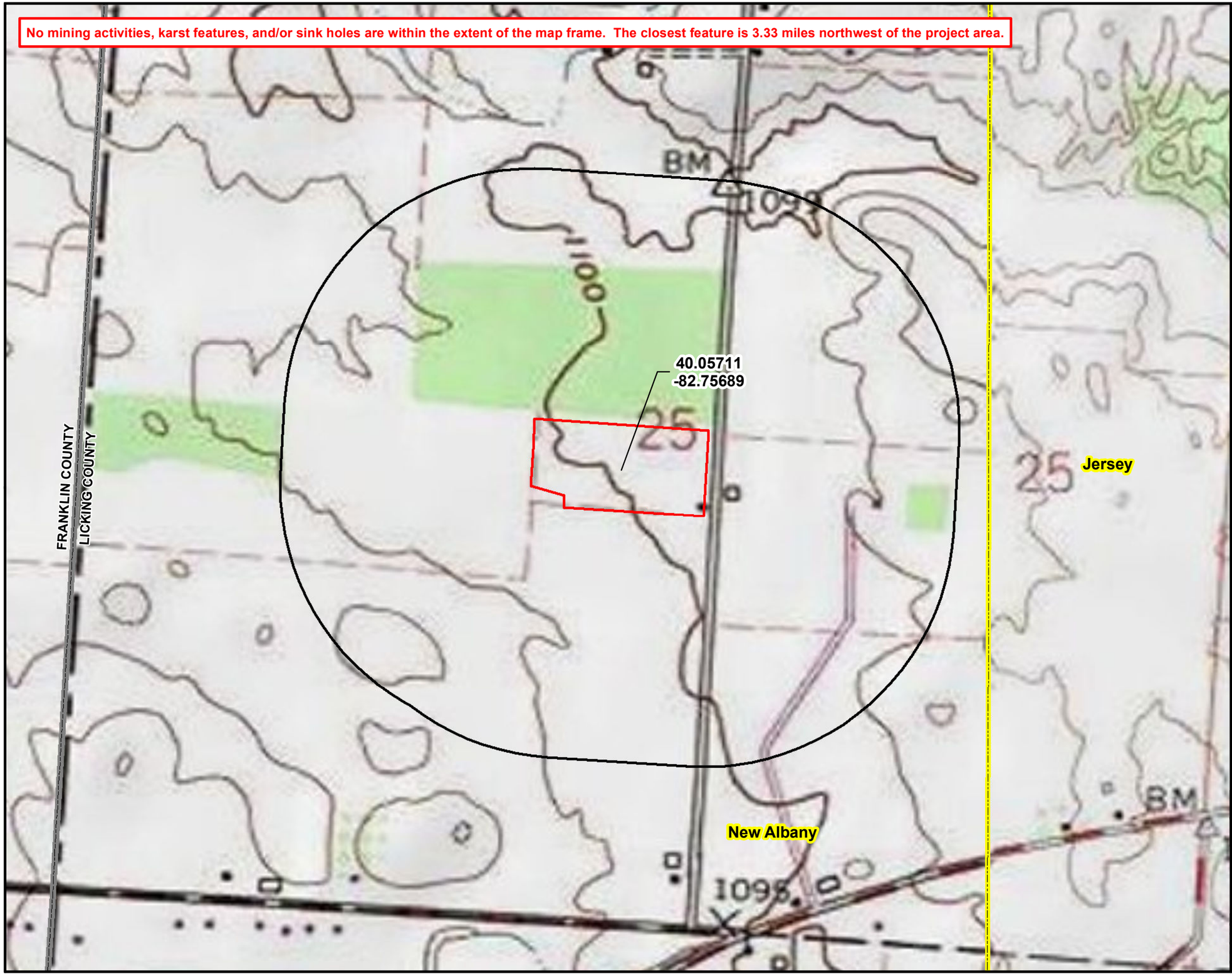
Sincerely,

Brian Miller
Environmental Project Manager
Phone: (412-667-9172)
brian.miller1@aecom.com

Attachments: Figure 1 – Topographic Project Overview
Figure 2 – Aerial Project Overview
Natural Heritage Data Request Form
Electronic Shapefiles (.shp)

Cc: Amy J. Toohey
Environmental Specialist-Consultant
Phone: (614-565-1480)
ajtoohey@aep.com

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 3.33 miles northwest of the project area.



Legend

- Project Area
- Quater Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle
- County Boundary

N

0 600 1,200

Feet

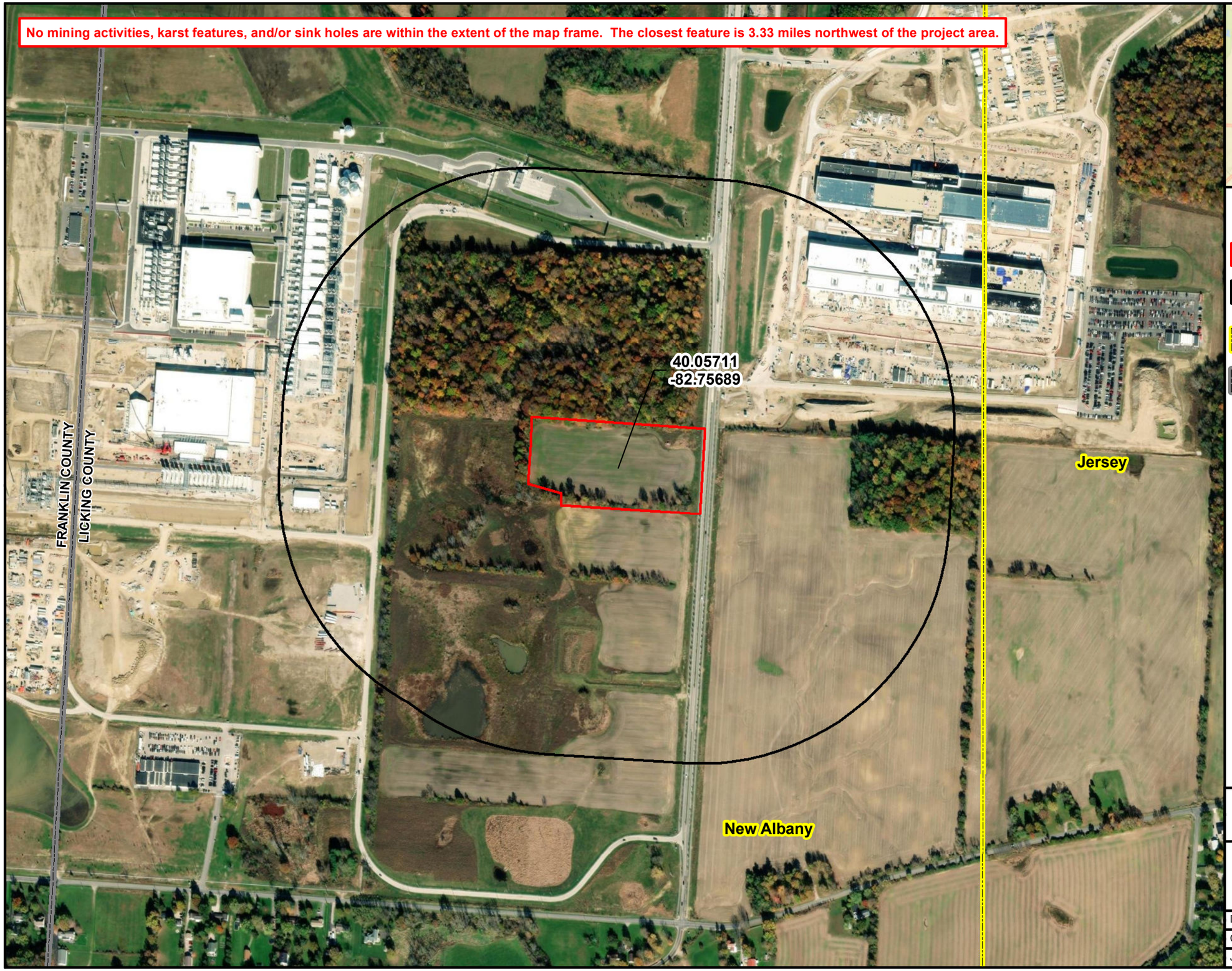
Macy Substation and Macy - Justice Cust DP#1 T Line Project

FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 5/30/2023	1 INCH = 500 FEET
CREATED BY: CJT	CHECKED BY: AH
JOB NO.: 60704092	AECOM

Date Saved: 5/30/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60704092_AEP_MacySubstation\2_MXDs\0_TE\Macy_Substation_ODNRFigure1_Topo_Overview.mxd

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 3.33 miles northwest of the project area.



Legend

- Project Area
- Quater Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle
- County Boundary

N

0 600 1,200

Feet

Macy Substation and Macy - Justice Cust DP#1 T Line Project

FIGURE 2
AERIAL PROJECT OVERVIEW

DATE: 5/30/2023	1 INCH = 500 FEET
CREATED BY: CJT	CHECKED BY: AH
JOB NO.: 60704092	AECOM

Date Saved: 5/30/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60704092_AEP_MacySubstation\2_MXDs\0_TE\Macy_Substation_ODNRFigure2_Aerial_Overview.mxd

APPENDIX C

U.S. ARMY CORPS OF ENGINEERS WETLAND DETERMINATION DATA FORMS

OEPA WETLAND ORAM FORMS

DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Macy Substation and Macy-Justice Cust DP#1 Line Project City/County: Licking Sampling Date: 6/7/2023

Applicant/Owner: AEP State: OH Sampling Point: W-CRW-001 PFO (EMHT Wetland A

Investigator(s): CRW Section, Township, Range: S35 2N R15

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR N, MLRA 126 Lat: 40.05768 Long: -82.75677 Datum: NAD83

Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes NWI classification: NA

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Previously delineated EMHT Wetland A. Majority of previously mapped boundary is outisde of new survey area. Only a small portion extends into the Macy Substation survey area. Delineated by topography and vegetation, Normal circumstances were present. The primary source of hydrology is precipitation.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): 0
Water Table Present?	Yes ____	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
Multiple indicators of wetland hydrology were observed. Hydro source=precip

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

Sampling Point: W-CRW-001 PFO (EMHT Wetland A)

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	25	Yes	FACW
2. *Acer negundo*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	45	=Total Cover	
50% of total cover: 23	20% of total cover:	9	
Sapling/Shrub Stratum (Plot size: 15'r)			
1. *Acer negundo*	10	Yes	FAC
2. *Ulmus americana*	10	Yes	FACW
3. *Lindera benzoin*	10	Yes	FAC
4. *Fraxinus americana*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
	35	=Total Cover	
50% of total cover: 18	20% of total cover:	7	
Herb Stratum (Plot size: 5'r)			
1. *Symphyotrichum lanceolatum*	30	Yes	FAC
2. *Geum canadense*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	=Total Cover	
50% of total cover: 20	20% of total cover:	8	
Woody Vine Stratum (Plot size: 15'r)			
1. *Toxicodendron radicans*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
50% of total cover: 3	20% of total cover:	1	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	75	x 3 =	225
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	125 (A)		355 (B)

Prevalence Index = B/A = 2.84

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supportin data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation was observed.

SOIL

Sampling Point: W-CRW-001 PFO (EMHT Wetland A)

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	95	10YR 6/8	5	C	M	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:
Hydric soil indicator F6 was observed at the time of sampling.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Macy Substation and Macy-Justice Cust DP#1 Line Project City/County: Licking Sampling Date: 6/7/2023

Applicant/Owner: AEP State: OH Sampling Point: W-CRW-001 (EMHT Wetland A) -Uf

Investigator(s): CRW Section, Township, Range: S35 2N R15

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR N, MLRA 126 Lat: 40.057604 Long: -82.756778 Datum: NAD83

Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes NWI classification: NA

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point taken upslope of existing wetland boundary within area that had been previosuly cleared of majority of veg. The primary source of hydrology is precipitation..

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): 0
Water Table Present?	Yes ____	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:
No indicators of wetland hydrology were observed.

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

Sampling Point: W-CRW-001 (EMHT Wetland A) -UPL

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15'r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5'r)			
1. *Allium ursinum*	20	Yes	UPL
2. *Rumex crispus*	10	Yes	FAC
3. *Trifolium repens*	10	Yes	FACU
4. *Symphyotrichum lanceolatum*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Woody Vine Stratum (Plot size: 15'r)			
1. *Toxicodendron radicans*	25	Yes	FAC
2.			
3.			
4.			
5.			
	25 =Total Cover		
50% of total cover: 13	20% of total cover: 5		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	35	x 3 =	105
FACU species	10	x 4 =	40
UPL species	20	x 5 =	100
Column Totals:	70 (A)		255 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supportin data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No Hydrophytic vegetation was observed, trees and shrubs had been previously cleared.

SOIL

Sampling Point: W-CRW-001 (EM/HT Wetland A) -UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Loamy/Clayey	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

No indicators of hydric soil were observed.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Macy Substation and Macy-Justice Cust DP#1 Line Project City/County: Licking Sampling Date: 6/7/2023

Applicant/Owner: AEP State: OH Sampling Point: UPL-CRW-00

Investigator(s): CRW Section, Township, Range: S35 2N R15

Landform (hillside, terrace, etc.): Plains Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR N, MLRA 126 Lat: 40.057428 Long: -82.7555 Datum: NAD83

Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes NWI classification: NA

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

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

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland point taken within previously mapped wetland. Soils appear to be disturbed due to prior construction activities (fill). No hydrology indicators were met. Primary source of hydrology was precipitation

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): 0
Water Table Present?	Yes ____	No X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): 0

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:
No indicators of wetland hydrology were observed.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: UPL-CRW-001

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15'r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5'r)			
1. *Solidago canadensis*	25	Yes	FACU
2. *Lolium perenne*	20	Yes	FACU
3. *Trifolium pratense*	20	Yes	FACU
4. *Trifolium repens*	10	No	FACU
5. *Poa pratensis*	10	No	FACU
6. *Rumex crispus*	5	No	FAC
7. *Typha angustifolia*	5	No	OBL
8. *Packera glabella*	5	No	OBL
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 15'r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	100 (A)		365 (B)

Prevalence Index = B/A = 3.65

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supportin data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No Hydrophytic vegetation was observed

SOIL

Sampling Point: UPL-CRW-001

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12		100						Recently Disturbed (no color)

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

Recently disturbed, no color due to fill, no indicators of hydric soil were observed.

Background Information	
Name:	**Cameron Wyse**
Date:	**6/7/2023**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**(859) 227-5211**
e-mail address:	Cameron.Wyse@AECOM.com
Name of Wetland:	**W-CRW-001 (EMHT Wetland A)**
Vegetation Communit(ies):	**PFO**
HGM Class(es):	**Deppresional**

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

Lat/Long or UTM Coordinate:	**40.05768/-82.75677**
USGS Quad Name:	**New Albany**
County:	**Licking**
Township:	**2N**
Section and Subsection:	**S35 R15**
Hydrologic Unit Code:	**50600011503**
Site Visit:	**6/7/2023**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	W-CRW-001 (EMHT Wetland A)		
Wetland Size (delineated acres):	0.10	Wetland Size (Estimated total acres):	7.11

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

N

Comments, Narrative Discussion, Justification of Category Changes:

Previously delineated wetland, only a small portion of the wetland boundary extended into the new Macy Substation survey area. Hydrology source=rain. Delineated by topography, and vegetation.

Final score:	52	Category:	2

Wetland ID:	W-CRW-001

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Wetland ID:	W-CRW-001

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	***NO** Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	***NO** Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	***NO** Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	***NO** Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis* , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	***NO** Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	***NO** Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	***NO** Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	***NO** Go to Question 8b

Wetland ID:	W-CRW-001

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	***NO** Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	***NO** Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	***NO** Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	***NO** Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	***NO** Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	***NO** Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	***NO** Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	***NO** Complete Quantitative Rating

Wetland ID:	W-CRW-001

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	oak opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Wetland ID:	W-CRW-001 (EMHT Wetland A)

Site:	Macy Substation	Rater(s):	CRW, RBL	Date:	6/7/2023

Field ID:

W-CRW-001

Delineated acres:	0.10
Total acres:	7.11

Metric 1. Wetland Area (size).

5.0 (max 6 pts) | 5.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [x] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

5.0 (max 14 pts.) | 10.0 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [x] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

16.0 (max 30 pts.) | 26.0 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [x] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [x] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [x] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] Other:

Metric 4. Habitat Alteration and Development.

18.0 (max 20 pts.) | 44.0 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [x] None or none apparent (4)
- [ ] Recovered (3)
- [ ] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [x] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [x] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

44.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-CRW-001 (EMHT Wetland A)

Site:	Macy Substation	Rater(s):	CRW, RBL	Date:	6/7/2023

Field ID:
W-CRW-001

44.0
subtotal this page

0.0 max 10 pts. **44.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Praires (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 5 Qualitative Rating (-10)

8.0 max 20pts. **52.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [ ] Emergent
- [1] Shrub
- [2] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [x] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [1] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

52.0 **TOTAL (Max 100 pts)**
2 **Category**

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

	Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species
	Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generallyw/o presence of rare threatened or endangered spp to
	A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

Wetland ID:	W-CRW-001 (EMHT Wetland A)

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	5		
	Metric 2. Buffers and surrounding land use	5		
	Metric 3. Hydrology	16		
	Metric 4. Habitat	18		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	8		
	TOTAL SCORE	52		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-CRW-001 (EMHT Wetland A)

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	***NO**	Is quantitative rating score *less* than the Category 2 scoring threshold (*excluding* gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	***NO**	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	***NO**	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	***YES** Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	***NO**	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	***NO** Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Station Project	60704092 & 6078618

W-CRW-001 (EMHT Wetland A) **Date:** June 7, 2023 **Description:** PFO wetland Category 2 Facing North	

W-CRW-001 (EMHT Wetland A) **Date:** June 7, 2023 **Description:** PFO wetland Category 2 Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Station Project	60704092 & 6078618

W-CRW-001 (EMHT Wetland A) **Date:** June 7, 2023 **Description:** PFO wetland Category 2 Facing South	

W-CRW-001 (EMHT Wetland A) **Date:** June 7, 2023 **Description:** PFO wetland Category 2 Facing West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Station Project	60704092 & 6078618

W-CRW-001 (EMHT Wetland A)	
Date: June 7, 2023	
Description: PFO wetland Category 2 Facing Soils	

APPENDIX D

HABITAT PHOTOGRAPHIC RECORD

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Station Project	60704092 & 6078618

PH-01	
Date: June 7, 2023	
Description: Pasture/Hay Fields Facing North	

PH-02	
Date: June 7, 2023	
Description: Pasture/Hay Fields Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Station Project	60704092 & 6078618

PH-03	
Date: June 7, 2023	
Description: Pasture/Hay Fields Facing North	

PH-04	
Date: June 7, 2023	
Description: Pasture/Hay Fields Habitat Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Macy 138 kV Station Project	60704092 & 6078618

PH-05

Date:

June 7, 2023

Description:

Barren Disturbed

Facing North

PH-06

Date:

June 7, 2023

Description:

Stream/Wetland

Facing East

APPENDIX E

2023 JOINT GUIDANCE

OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING MAY 2023

This document has been updated with new state guidance for the 2023 field season.

This guidance applies to state recommendations only. Contact the USFWS to determine if federal consultation is also necessary to comply with federal law.

Agency Contacts:

ODNR-DOW Permit Coordinator: Wildlife.Permits@dnr.ohio.gov, (614) 265-6315
ODNR-DOW Bat Survey Coordinator: Eileen Wyza, Eileen.Wyza@dnr.ohio.gov, (614) 265-6764
USFWS OHFO Endangered Species: Angela Boyer, angela_boyer@fws.gov, (614) 416-8993, ext.122

Covid-19 Guidance:

Surveyors should follow all covid protocols put in place by their agency. All surveyors should wear masks when handling bats and anyone exhibiting symptoms of covid-19 should not participate in bat surveys.

Ohio Mist-net Surveys:

This document serves as guidance for bat mist netting activities in Ohio and does not supersede any requirements listed on your permits or facility certificate. All permit conditions must be strictly adhered to for permits to be valid and for renewal of permits beyond the existing year.

Due to the presence of White-nose Syndrome (WNS), mist-netting in Ohio must be conducted between June 1 and August 15 unless stated otherwise in your state permit. The ODNR Division of Wildlife (ODNR-DOW) and U.S. Fish and Wildlife Service (USFWS) Ohio Field Office (OHFO) have determined that delaying netting activities until June 1 will provide additional recovery time for bats affected by WNS. For presence/probable absence surveys, netting will not be accepted outside of the June 1 - August 15 timeframe.

To assess project areas for presence or probable absence of the state and federally listed Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) during summer residency, the USFWS developed the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023). This protocol, **with minor modifications referenced below**, can also be used in Ohio for the 2023 field season and includes surveying for the state-listed little brown bat (*Myotis lucifugus*) and tricolored bat (*Perimyotis subflavus*).

According to the updated federal range-wide guidelines, presence/probable absence net surveys for northern long-eared bats shall incorporate either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. Presence/probable absence net surveys for Indiana bats shall incorporate six net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear

projects. If a project area is eligible for a presence/probable absence survey for both Indiana bats and northern long-eared bats, following the northern long-eared bat level of effort will qualify as a presence/ probable absence survey for both species. However, if a project area is eligible for a presence/absence survey for both species, following the Indiana bat level of effort will not qualify the survey for a northern long-eared bat presence/ probable absence survey. Please note that the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) requires that a minimum of two (2) biologists (e.g., one permitted and one technician) must be on-site for every four (4) net-sets being operated. Exceptions to on-site minimum staffing levels may be allowed under extenuating circumstances, provided written justification is included in the proposed survey study plan and subsequently approved by the OHFO and ODOW.

Due to the reclassification of the northern long-eared bat on March 31, 2023, the previous northern long-eared bat 4(d) rule has been nullified. There is a new online tool in the USFWS's Information for Planning and Consultation (IPaC) website that allows project proponents to utilize a determination key (Dkey) for the northern long-eared bat. **The Dkey cannot be used to replace consultation with ODNR-DOW.** Project proponents should coordinate directly with the ODNR-DOW and the OHFO for project technical assistance for all federally listed species, including the Indiana bat and northern long-eared bat.

The tricolored bat is listed as endangered by ODNR-DOW. Additionally, the USFWS published a proposed rule to list the tri-colored bat as endangered on September 14, 2022. The USFWS is scheduled to publish a final rule on the tricolored bat's status by the end of September 2023 which could affect future project development. Therefore, in anticipation of this listing we recommend that project proponents coordinate with the OHFO in addition to ODNR-DOW to determine if the project could benefit from formal coordination with USFWS for tricolored bat. The USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) allows presence/absence surveys for the tricolored bat that use the northern long-eared bat level of effort.

Exception for Ohio mist-net surveys: All presence/absence surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the maximum net nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Ohio Acoustic Surveys:

Acoustic bat surveys for presence/absence will be accepted by ODNR-DOW for the 2023 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) with the following exceptions:

- Ohio survey dates are June 1 – August 15, 2022
- After conducting automated analyses using one or more of the currently available 'approved' acoustic bat ID programs[1], qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis, M. septentrionalis*[2]*, M. lucifugus*[2]*,* and *P. subflavus*[2]) must be completed.
- **All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the maximum acoustic nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.**

At a minimum, for each detector site/night a program considered presence of state-listed bats likely, review all files (including no IDs) from that site/night. If more than one acoustic bat ID program is used, qualitative analysis must also include a comparison of the results of each program by site and night.

[1] https://www.fws.gov/media/indiana-bat-summer-survey-guidance

[2] State listing as endangered effective July 1, 2020

Combined Mist-netting and Acoustic Surveys:
ODNR-DOW will accept the USFWS pilot survey option of combining mist-netting and acoustic surveys for traditional survey sites (e.g., 123-acre area) detailed in Appendix I of the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (2023). All presence/absence combined mist-net and acoustic surveys conducted for state listed bat species should follow the maximum level of effort set forth by the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Before Field Season:

- Anyone surveying bats using mist-nets in the state of Ohio must obtain a federal permit as well as a state scientific collection permit. The federal permit should include both the Indiana bat and the northern long-eared bat.
- Your ODNR-DOW permit consists of two documents: a Scientific Collector (Wild Animal) Permit and an endangered species letter signed by the Chief of the Division of Wildlife (in addition to your federal permit). Both ODNR-DOW documents must be obtained prior to field work and kept with you and any sub-permittees during field work.

During Field Season:

- Prior to initiation of field work (a minimum of two weeks in advance), permittees must provide proposed mist netting plans to USFWS and ODNR-DOW in the form of an e-mail letter to the USFWS OHFO and copy to the ODNR-DOW Bat Survey Coordinator. Plans must be reviewed and approved by USFWS OHFO and ODNR-DOW before ANY surveys take place. Study plans must specify objectives, location details, dates of proposed work, and all other relevant details. **Study plans must also include a USFWS Project Code. Project Codes can only be obtained by requesting an official species list through the USFWS's Information for Planning and Consultation (IPaC) website (https://ipac.ecosphere.fws.gov/).** When handling bats, you must strictly adhere to the current WNS Decontamination Protocol (current version can be found at https://www.whitenosesyndrome.org/topics/decontamination). Clothing, boots, gear, and equipment should all be thoroughly decontaminated between nights, as well as between netting sites.
- Request bat bands at least two weeks in advance of needing them. Bat bands can be obtained by e-mailing the ODNR-DOW Bat Survey Coordinator with how many bands are needed, current permit number, sizes, and a mailing address. Bands will not be issued until your permits are valid. We have two sizes of bands—2.4 mm and 4.2 mm. The 2.4 mm split metal bat ring made of aluminum alloy is suitable for banding small bats. This band must be placed on all captured Indiana, northern long-eared, little brown, and tricolored bats. The larger 4.2 mm band is suitable for silver-haired (*Lasionycteris noctivagans*), big brown (*Eptesicus fuscus*), and hoary (*Lasiurus cinereus*) bats. You must band all Indiana, northern long-eared, little brown, and tricolored bats with ODNR-DOW bands; therefore, you should not be in the field without the 2.4 mm sized band.
- Only individuals who are named on the ODNR-DOW endangered species letter portion of the permit and on the corresponding federal bat permit may conduct and oversee mist-net surveys. Trained assistants may work on permitted bat activities under the direct and on-site supervision of a named permittee. All bat IDs must be verified by a named permittee. If an Indiana bat and/or northern long-eared bat is captured, the permittee shall notify the USFWS and the ODNR-DOW Bat Survey Coordinator referenced above within 48 hours via email. If a little brown bat or tricolored bat is captured, notify the ODNR-DOW Bat Survey Coordinator only within 48 hours via email. Reports of listed bat captures should include specific information such as spatial location of capture, band information, radio-transmitter frequency information, sex, reproductive status, and age of individual.
- For presence/absence surveys, ODNR-DOW requires all female and juvenile state endangered and threatened bat species (Indiana, northern long-eared, little brown, and tricolored bat) be radio-tracked if

caught, in accordance with methods outlined in Appendix D of USFWS 2022 Range-wide Indiana Bat Summer Survey Guidelines.

• If you are taking any biological samples (tissue, fur, blood, etc.), this must be specifically authorized in your state and federal permits and noted in your survey proposal.

After Field Season:

By March 15, you must submit your final ODNR-DOW report(s) from the previous summer. You are not required to fill out the ODNR-DOW Wildlife Diversity Bat Excel Spreadsheet; instead, please forward your USFWS Midwestern US Spreadsheet (found here: https://www.fws.gov/media/bat-reporting-spreadsheets-2020-2021) to the ODNR-DOW Bat Survey Coordinator and ODNR-DOW Permit Coordinator and include your state permit number along with an electronic copy of the project report. Electronic summaries emailed during the field season are NOT considered as full compliance of this reporting requirement.

Ohio Environmental Review Recommendations for projects involving disturbance near potential/known bat hibernacula (cliffs, caves, mines) or tree cutting:

Step 1: Coordinate with Ohio Division of Wildlife (DOW) regarding existing records for state-listed endangered bat summer and/or winter occurrence information. Potential hibernacula found during a habitat assessment must address possible suitability for Indiana bats, northern long-eared bats, tricolored bats, and little brown bats.

If project site contains a known bat hibernaculum(a) –

- For state-listed endangered species other than the Indiana bat and northern long-eared bat, a recommendation of 0.25-mile tree cutting buffer around all known entrances to protect existing conditions at the hibernaculum(a). The U.S. Fish and Wildlife Service (USFWS) should be contacted for guidance on projects occurring within 5 miles of known or potential Indiana bat and/or northern long-eared bat hibernacula. If the project involves subsurface disturbance, consultation with DOW is required.
- Limited tree cutting may be permitted within the buffer. Coordinate with DOW.

If a project site does not contain known bat hibernaculum(a)

- Conduct a desktop habitat assessment of the project area. Tools such as the ODNR Mines of Ohio Viewer, Karst Interactive Map, topographic maps, aerial photos, historical records, etc. should be used to determine if there are any potential caves, mines, karst features, rock ledges, or other features that may serve as potential hibernacula.
  - If no such features are found, proceed to Step 2.
  - If potential hibernacula are found during the desktop assessment:
    - Assume bats are using these hibernacula and refrain from clearing trees from March 15-November 15

-Or-

- Conduct a field habitat assessment to determine if a potential hibernaculum(a) is present within the action area. We encourage impacts to ledges and rock outcroppings be avoided. If impacts cannot be avoided, features should be evaluated for potential roosting characteristics such as recesses, overhangs, and crevices.
- **NOTE**: The USFWS Range-wide Indiana Bat Guidelines, Appendix H, contains instructions for completing a habitat assessment, but only includes criteria for Indiana bat hibernacula.

Step 2: When conducted, a presence/absence survey must follow current DOW guidelines.

Step 3: If a state-listed endangered bat is captured or recorded during the survey:

- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 5 miles (or 2.5 miles for tricolored bats) of the capture site if a roost is not located.
- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 2.5 miles of a roost tree if located.

If no state-listed endangered bat is captured or recorded during the survey:

- Summer tree cutting may proceed for 5 years before a new survey is needed under state guidance.

Limited summer tree cutting guidance for bats that are only state-listed endangered: Limited tree cutting in summer may be permitted after consultation with DOW, but clearing trees with the following characteristics should be avoided unless they pose a hazard: dead or live trees of any size with loose, shaggy bark; crevices, holes, or cavities; clusters of dead leaves; live trees of any species with DBH ≥ 20".

FREQUENTLY ASKED QUESTIONS

When does the ODNR-DOW Bat Survey protocol have to be used?

This protocol should be used anytime Indiana bat, northern long-eared bat, little brown bat, or tricolored bat summer presence/probable absence surveys are conducted in the state of Ohio.

How many detector nights are required for presence/probable absence acoustic surveys?

As described in the current USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines:

Level of effort for all state-listed endangered bat species including Indiana bat and northern long-eared bats: Follow maximum detector nights as outlined in the federal guidance (for northern long-eared bat).

Northern Long-eared Bat Level of Effort:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 14 detector nights per 123 acres (0.5 km^2) of suitable summer habitat.
At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:
- 4 detectors for 3 nights and 1 detector for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 7 nights each (can sample the same location or move within the site)
- 1 detector for 14 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

Indiana Bat Level of Effort:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 10 detector nights per 123 acres (0.5 km^2) of suitable summer habitat.
At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:
- 5 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 5 nights each (can sample the same location or move within the site)
- 1 detector for 10 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

How many net surveys are required for presence/probable absence?

Level of effort for all state-listed endangered bat species including Indiana bat and northern long-eared bats: Follow maximum net nights as outlined in the federal guidance (for northern long-eared bat).

Net surveys for northern long-eared bat presence/probable absence shall incorporate, at a minimum, either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This does not allow for two net nights on a single night for surveys.

Net surveys for Indiana bat presence/probable absence shall incorporate, at a minimum, either six net nights net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This

does not allow for two net nights on a single night for surveys.

How long are the results of the surveys valid for an assessment of an area?

Mist-net or acoustic surveys documenting probable absence of state-listed endangered bats are valid for five years.

When can acoustic or net surveys occur in Ohio?

In Ohio, acoustic or net surveys may only be conducted from June 1 through August 15 unless indicated otherwise in your state permit. Any surveys outside of the June 1 - August 15 timeframe cannot be used in Ohio to assess the presence/probable absence of state-listed bats.

Can a presence/probable absence survey be conducted within a known Indiana bat and/or northern long-eared bat capture/detection buffer?

Surveys generally cannot be used to document presence/probable absence of state-listed endangered bats where presence of the species has already been confirmed by prior surveys.

What if a project is proposing to clear trees between April 1 and September 30 when bats may be present but no bat records exist in the project area?

Any Ohio project that is not within a known bat record buffer, and tree clearing between April 1 and September 31 is being proposed, may have a presence/probable absence survey conducted between June 1 and August 15 following the range-wide guidance. If a presence/probable absence survey is not performed, presence of listed bats is assumed.

How does take of northern long-eared bats differ from Indiana bats?

Under Ohio law, there is no exemption for take of any listed bat species.

Where do I get bands?

If you need bands, email the ODNR-DOW Bat Survey Coordinator at least two weeks in advance with your current ODNR permit number, how many bands in each size (2.4 and 4.2 mm) you will need this season, and a current address to ship the bands.

Do I have to band every bat?
No, currently this is optional. However, you are required as per your state permit to band all Indiana, northern long-eared, little brown, and tricolored bats.