Letter of Notification Chenoweth Station and Chenoweth-Fox Squirrel 345 kV Tie Line Project

AEP OHIO TRANSMISSION COMPANY

An AEP Company

BOUNDLESS ENERGY

PUCO Case No. 22-0955-EL-BLN

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

Submitted by:
AEP Ohio Transmission Company, Inc.

October 24, 2022

Letter of Notification

AEP Ohio Transmission Company, Inc.
Chenoweth Station and Chenoweth-Fox Squirrel 345 kV Tie Line Project

4906-6-05

AEP Ohio Transmission Company, Inc. (the "Company") provides the following information to the Ohio Power Siting Board ("OPSB") pursuant to 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 proposes to construct the Chenoweth Station and Chenoweth-Fox Squirrel 345 kV Tie Line Project (the "Project") in Oak Run Township, Madison County, Ohio. The purpose of the Project is to provide a 345 kV interconnection to the Fox Squirrel Solar facility (OPSB Case Number 20-0931-EL-BGN), proposed by Fox Squirrel Solar, L.L.C. an Independent Power Producer (IPP). The PJM Queue Position is AE2-148. The station will be approximately 2.5 acres. It is currently on land owned by a third party, but under option to purchase by the IPP. The Chenoweth Station portion of the overall property will be transferred to the Company. The Chenoweth-Fox Squirrel 345 kV Tie Line will require one span, less than 0.1 mile, to connect to the IPP station. Chenoweth Station will receive looped service from the Beatty-Greene 345kV transmission line (filed under OPSB Case No. 22-0954-EL-BLN). The location of the Project is shown on Figure 1 and Figure 2 in Appendix A.

The Project meets the requirements for a LON because it is within the types of projects defined by item 3 of Ohio Administrative Code Section 4906-1-01 Appendix A of the Application Requirement Matrix For Electric Power Transmission Lines:

(3) Construction of a new electric power transmission substation.

The Project has been assigned PUCO Case No. 22-0955-EL-BLN.

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.

As part of the AE2-148 IPP connection facility, the Company will construct the new Chenoweth 345 kV Station, a three-breaker ring bus station, that will include network attachment facilities required to connect to the new generation facility. The Company will also install a single 345 kV span out of Chenoweth Station

towards the generating facility's station to act as the point of interconnection. The proposed connection is a 577 MW (397 MW Capacity) solar/storage generating facility in Madison County, Ohio.

In order to connect the IPP to Chenoweth Station, additional work is expected to be required on Ohio Power Company's Beatty - Greene 345 kV line adjacent to the Chenoweth Station in order to bring these circuits into breaker positions at the station. A separate application will be filed for this additional work.

The Project is related to the Company's obligation to connect AE2-148 per the PJM IPP Tariff. The Project is listed in the 2022 AEP Ohio Transmission Company LTFR document, page 99 (Form FE-T10, Planned Transmission Lines). The LTFR page is included as Appendix B.

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 transmission lines is shown in Figure 1 of Appendix A.

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 Project is located on land currently owned by a third party, but under option to purchase by the IPP. The Chenoweth Station, tie line, and cut in will be located on property transferred to the Company. Transfer of the property to Company ownership is expected to occur prior to construction, likely by late November 2022. Based on the IPP's proposed development and existing facilities in the area, the proposed location is the most suitable and least impactful for the Project. Other alternatives would require impacting neighboring properties, as opposed to remaining entirely on the Company's property, and would add additional transmission length to the associated projects without any additional benefit. The proposed Project will result in no impacts to wetlands, streams, or known cultural resource areas eligible for the National Register of Historic Places (NRHP). Therefore, this alternative represents the most suitable location and is the most appropriate solution for meeting the Company and IPP's needs in the area.

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 Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of

general circulation in the Project area. The notice will comply with all requirements of Ohio Revised Code ("OAC") Section 4906-6-08(A)(1-6). Further, the Company has mailed (or will mail) a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (http://aeptransmission.com/ohio/) which provides the public access to an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library in each political subdivision for this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the 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 planned to begin in January 2023, and the anticipated in-service date will be in September 2023.

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 in Appendix A provides the proposed Project area on a map of 1:24,000-scale (1 inch equals 2,000 feet), showing the Project on the United States Geological Survey (USGS) 7.5-minute topographic map of the Walnut Run, Ohio quadrangle. Figure in Appendix A show the Project Area on recent aerial photography, dated 2020, as provided by ESRI's World Imagery at a scale of 1:4,800 scale (1 inch equals 400 feet).

To visit the Project site from Columbus, Ohio, take I-71 South approximately 22 miles to Exit 84 for OH-56 toward London. Turn right on OH-56 and continue for 5.2 miles. Turn left onto Moorman Road. After approximately 3.0 miles, turn right onto Van Wagener Road. Continue for 0.9 mile before turning left onto Johnston Road. The Project is located approximately 0.8 miles west of Van Wagener Road on the left at latitude 39.794822, longitude -83.400563.

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.

All work activities are proposed on Parcel 13-00119.000, which is currently owned by a private landowner. The IPP currently holds an option to purchase a portion of the property on which the station will be situated.

This portion of the property needed for the station is anticipated to be transferred to the Company prior to construction.

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 equipment and facilities anticipated to be installed for the Project include the following:

Chenoweth Station
1 – 48'x16' Drop In Control Module
3 – 345kV Circuit Breakers

Chenoweth-Fox Squirrel 345 kV Tie Line

Line Asset Name:	Chenoweth-Fox Squirrel 345 kV Tie Line
Ownership:	AEP Ohio Transmission Company, Inc.
Voltage:	345 kV
Conductors:	(3) 2-bundle 1590 kcmil ACSR 54/19 (Falcon)
Static Wire:	(2) 159 kcmil ACSR 12/7 (Guinea)
Insulators:	Polymer
ROW Width:	Not applicable
Structure Type:	No structures, just line between stations

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 $10,400,000 using a Class 4 estimate. The costs for this Project will be recovered through total reimbursement by the IPP.

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.

Aerial photography of the Project vicinity is provided as Figure 2 in Appendix A. The Project is located in the Oak Run Township, Madison County, Ohio. Land use in the Project area consists of agricultural fields. No tree clearing is anticipated for 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 Project, adjacent areas, and much of the surrounding vicinity are located on former agricultural land. Much of this area will be utilized for the approved IPP solar generation facility. The Madison County Auditor provided a list of parcels registered as Agricultural District Land on September 16, 2022. The Project parcel was registered in the Agricultural District Land program in 2019. The parcel will be withdrawn from the program prior to acquisition by the Company.

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.

The Company's consultant completed a Phase I Cultural Resource Management Investigation of the Project Area. The consultant identified four archaeological sites that were recommended as not eligible for inclusion in the NRHP. No further investigation was considered to be necessary by the consultant. The Ohio Historic Preservation Office ("SHPO") agreed that the Project will not impact any cultural resources eligible for listing on the NRHP and no additional coordination is necessary prior to construction. A copy of the September 15, 2022 concurrence letter from SHPO is provided in 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 storm water discharges under General Permit OHCD000005. The Company will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan ("SWPPP") to minimize erosion control sediment to protect surface water quality during storm events.

Three wetlands and no streams were identified within the Project ecological survey boundary. None of the wetlands are located in the proposed work areas (see Appendix D). Therefore, the Project will not require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers or a Section 401 Water Quality Certification from the OEPA.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map number **39097C0275D**). Based on this mapping, no mapped FEMA floodplains are located in the Project Area. Therefore, no floodplain permit will be required for this Project.

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, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The July 26, 2022 response letter from the USFWS (see Appendix C) indicated that due to the Project type, size, and location, USFWS does not anticipate adverse effects to any federally endangered, threatened, or proposed species or proposed or designated critical habitat.

A coordination letter was 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 in July 2022 seeking an environmental review of the proposed Project for potential impacts on state-listed and

federally-listed threatened or endangered species. Correspondence from ODNR's DOW/OHNP and the ODNR – Office of Real Estate was received on August 15, 2022 (see Appendix C).

According to the ODNR-DOW, the Project is within the range of the Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. The ODNR recommends cutting between October 1 and March 31, if necessary. No tree clearing is anticipated for the Project. A review of potential winter bat hibernacula including underground mine openings and karst features was conducted within 0.25 mile of the Project. No potential hibernacula were identified. Therefore, no additional coordination with ODNR is required.

The ODNR-DOW indicated that the Project is within the range of one fish and seven mussel species listed as species of concern, threatened, or endangered at the state and or federal level. Due to no in-water work and habitat, these species are not anticipated to be impacted by the Project.

The ODNR-DOW indicated that the Project is within the range of the king rail, upland sandpiper, and northern harrier, state endangered birds, as well as the black-crowned night heron and sandhill crane, state threatened species. The habitat for the aforementioned species was not identified within the Project area; therefore, the Project is not likely to impact these species.

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.

Based on a review of desktop GIS data and the site reconnaissance, no unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, or other protected natural areas were identified within the Project area.

FEMA Flood Insurance Rate Maps were consulted to identify any floodplains/flood hazard areas that have been mapped in the Project Area (specifically, map number **39097C0275D**). Based on these maps, no mapped FEMA floodplains are located in the Project area.

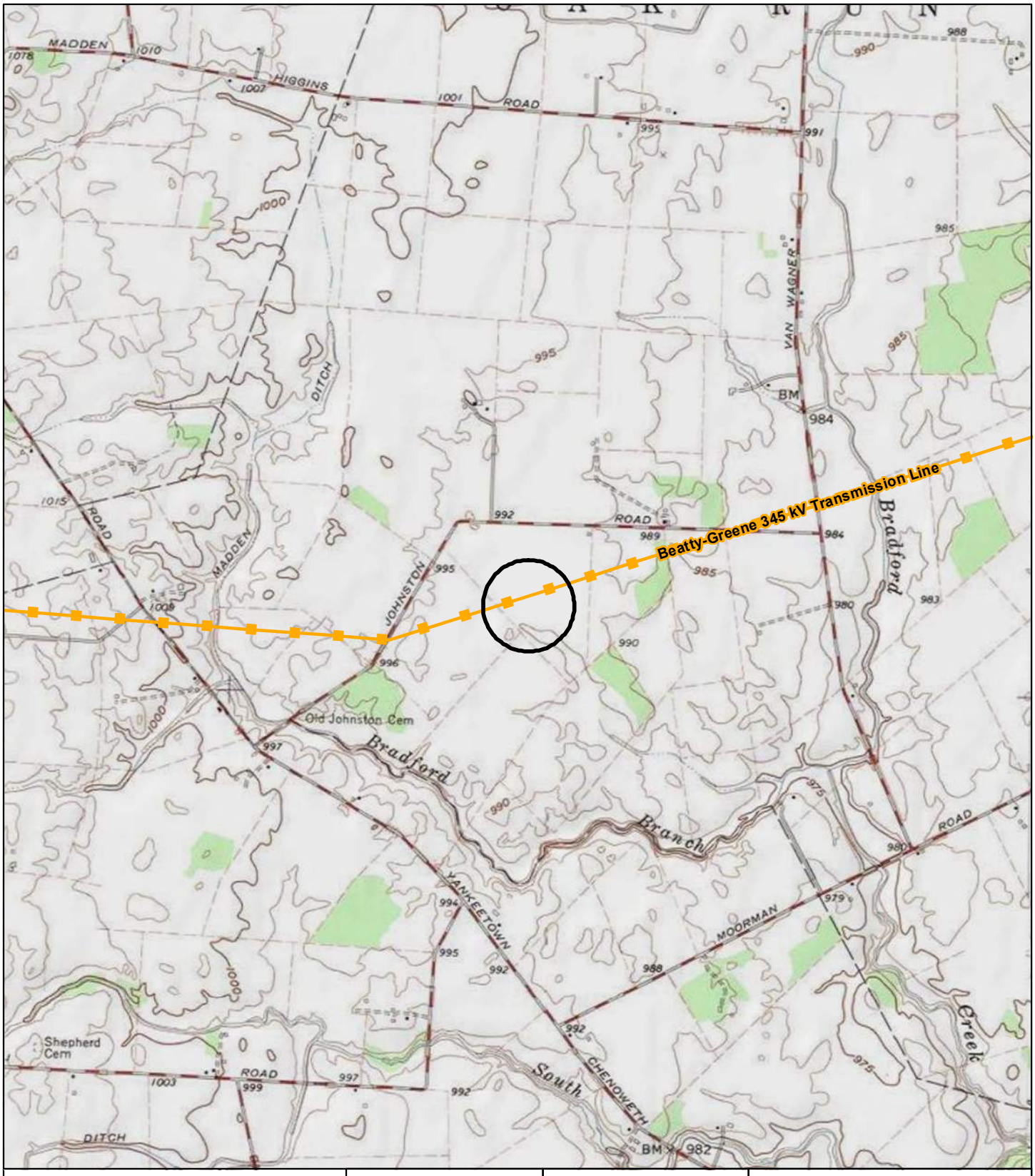
Wetland and stream delineation field surveys were completed within the Project area by the Company's consultant in July 2022. Three wetlands and no streams were identified within the Project ecological survey boundary. None of the wetlands are located in the proposed work areas for the Project (see Figure 2 in Appendix D).

B(10)(g) Unusual Conditions

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

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

Appendix A Project Maps



Legend:

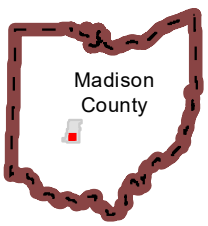
- Project Area
- Existing Transmission Line (345 kV)

Data Sources: AEP, USGS 7.5' Topographic Quadrangle (Walnut Run, Ohio)

Ohio State Plane South
NAD 1983

October 17, 2022

PROJECT LOCATION



MADISON COUNTY, OHIO

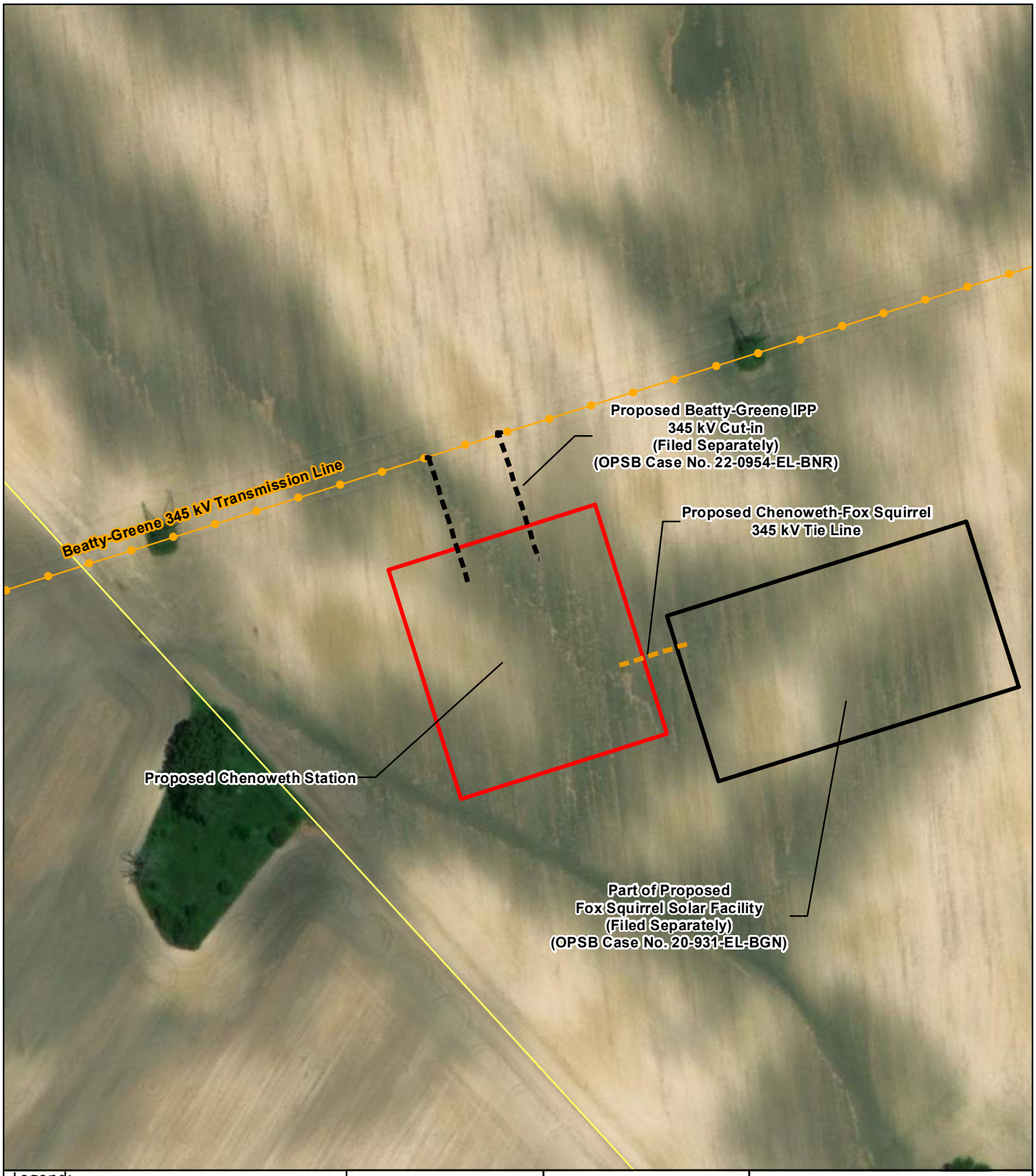
FIGURE 1
TOPOGRAPHIC OVERVIEW

AEP OHIO TRANSMISSION COMPANY

Chenoweth Station and Chenoweth-Fox Squirrel 345 kV Tie-line Project

0 1,000 2,000 3,000

Feet



Legend:

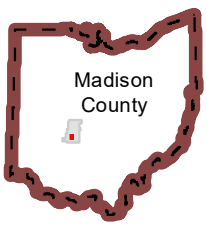
- Proposed Chenoweth Station Fence
- Proposed Chenoweth-Fox Squirrel 345 kV Gen-tie
- Proposed Transmission Line (Filed Separately)
- Proposed IPP Station
- Existing Transmission Line
- Parcel Boundary

Data Sources: AEP, Madison County Auditor, ESRI World Imagery (2020)

Ohio State Plane South NAD 1983

October 18, 2022

PROJECT LOCATION



MADISON COUNTY, OHIO

FIGURE 2
PROJECT AERIAL MAP

AEP OHIO TRANSMISSION COMPANY

Chenoweth Station and Chenoweth-Fox Squirrel 345 kV Tie Line Project

0 100 200 300

Feet

Appendix B Long Term Forecast Report

PUCO FORM FE-10
AEP OHIO TRANSMISSION COMPANY
Summary of Proposed Substations

Nottingham (AE2-290 TP2020119)	138 kV	T	2021-2022	Nottingham – BQ Energy 138kV	P	Approx. 4
Lammer (AE2-072 TP2020176)	138 kV	T	2022 - 2023	Lammer – Powell Creek (IPP) 138kV	P	Approx. 4
Lammer (AE2-072 TP2020176)	138 kV	T	2022 - 2023	Lammer - Richland (FE) 138kV	P	Approx. 4
Lammer (AE2-072 TP2020176)	138 kV	T	2022 - 2023	Lammer – East Liepsic 138kV	P	Approx. 4
Old Fort (V4-010 TP2020122)	138 kV	T	2022	Old Fort - Tiffin Center 138kV	P	Approx. 5
Old Fort (V4-010 TP2020122)	138 kV	T	2022	Fremont Center - Old Fort 138kV	P	Approx. 5
Old Fort (V4-010 TP2020122)	138 kV	T	2022	Old Fort - Republic Wind (IPP) 138kV	P	Approx. 5
West Waldo (AD1-106 TP2020093)	138kV	T	2022 - 2023	La Rue - West Waldo 138kV	P	Approx. 5
West Waldo (AD1-106 TP2020093)	138kV	T	2022 - 2023	West Mt Vernon - West Waldo 138kV	P	Approx. 5
West Waldo (AD1-106 TP2020093)	138kV	T	2022 - 2023	West Waldo - Chestnut Solar (IPP) 138kV	P	Approx. 5
Chenoweth (AE2-148 TP2020185)	345kV	T	2022	Chenoweth – Fox Squirrel (IPP) 345kV	P	TBD
Chenoweth (AE2-148 TP2020185)	345kV	T	2022	Beatty – Chenoweth 345kV	P	TBD
Chenoweth (AE2-148 TP2020185)	345kV	T	2022	Chenoweth – Greene (DP&L) 345kV	P	TBD
Kirk (AF2-122 TP2021570)	138 kV	T	2022 - 2023	Kirk - Union Ridge Solar 138kV	P	Approx. 4
C2-059, AD1-072, & AD2-016 TP20	138 kV	T	2022	Biers Run - Lutz 138kV	P	Approx. 4
C2-059, AD1-072, & AD2-016 TP20	138 kV	T	2022	Lutz - Westfall 138kV	P	Approx. 4
C2-059, AD1-072, & AD2-016 TP20	138 kV	T	2022	Lutz - Yellowbud Solar (IPP) 138kV	P	Approx. 4
Pottawatomie (AE2-298 TP2020206	69kV	T	2022	Haviland - Pottawatomie 69kV	P	Approx. 7
Pottawatomie (AE2-298 TP2020206	69kV	T	2022	Pottawatomie - South Van Wert 69kV	P	Approx. 7
Pottawatomie (AE2-298 TP2020206	69kV	T	2022	Pattawatomie - Lightsource (IPP) 69kV	P	Approx. 7
Bokes Creek (AF1-227 TP2020263)	345kV	T	2022 - 2023	Bokes Creek - Gunn Road 345kV	P	Approx. 7
Bokes Creek (AF1-227 TP2020263)	345kV	T	2022 - 2023	Bokes Creek - Marysville 345kV	P	Approx. 7

Appendix C Agency Coordination

In reply, refer to
2022-MAD-55645

September 15, 2022

Stephen Hinks
AECOM
525 Vine Street, Suite 1800
Cincinnati, OH 45202
Stephen.hinks@aecom.com

RE: AEP's Beatty-Greene IPP Switching Station Interconnect Project, Oak Run Township, Madison County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received August 17, 2022 regarding the proposed Beatty-Greene IPP Switching Station Interconnect Project, Oak Run Township, Madison 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 4906-5). 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 Archaeological Survey of the AEP Beatty-Greene IPP Switching Station Interconnect Project, Madison County, Ohio* by Stephen Hinks et al (AECOM 2022).

A literature review, visual inspection, surface collection and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area. It should be noted, the entire project area was surveyed as part of the Fox Squirrel Solar Project in 2021. Our office recently added the project area from this survey to the SHPO Online GIS, but AECOM was not aware of this survey when they completed their fieldwork. The solar project did not identify any archaeological sites within the current AEP project area. Four (4) new archaeological sites were identified during survey, Ohio Archaeological Inventory (OAI) #33MA0777-33MA0780. None of the sites are recommended eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with this recommendation and no additional archaeological survey is needed.

The following comments pertain to the *Phase I Architectural History Survey of the AEP Beatty-Greene IPP Switching Station Interconnect Project, Madison County, Ohio* by Rebecca Turner et al (AECOM 2022).

A literature review and field survey were completed as part of the investigations. A total of three (3) extant Ohio Historic Inventory (OHI) properties were identified within the Area of Potential Effects (APE). These properties have previously been recommended as not eligible for listing in the NRHP.

Based on the information provided, we agree that 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. Our office requests AECOM complete the OAI forms for OAI#33MA0777-33MA0780 as soon as possible. Please notify our office when that form have been completed. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorrocks@ohiohistory.org, or Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1094614-1094615

Holmes, Joshua

From: Ohio, FW3 <ohio@fws.gov>
Sent: Tuesday, July 26, 2022 10:07 AM
To: Holmes, Joshua
Cc: Buchanan, Becky; Shannon T Hemmerly; Claire E
Subject: [EXTERNAL] AEP 345 kV Beatty-Greene IPP Switching Station Interconnect Project, Madison County, Ohio

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

Project Code: 2022-0058622

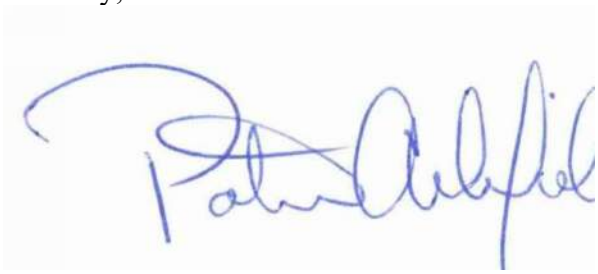
Dear Mr. Holmes,

The U.S. Fish and Wildlife Service (Service) 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 effects to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat. If there are any project modifications during the term of this action, or additional information for listed or proposed species or their critical habitat becomes available, or if new information reveals effects of the action that were not previously considered, then please contact us for additional project review.

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,



Patrice M. Ashfield
Field Office Supervisor

Office of Real Estate
John Kessler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

August 15, 2022

Joshua Holmes
AECOM
Foster Plaza 6
681 Anderson Drive, Suite 120
Pittsburgh, Pennsylvania 15220, USA

Re: 22-0742; AEP Beatty - Greene Switching Station Interconnect Project

Project: The proposed project involves construction of the proposed Chenoweth Switching Station, and a transmission line tie-in consisting of two structures to be installed along the existing Beatty-Greene 345 kV transmission line.

Location: The proposed project is located in Oak Run Township, Madison County, Ohio.

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

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

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

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

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

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

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

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

The project is within the range of the following listed mussel species.
Federally Endangered
clubshell (*Pleurobema clava*)
Northern riffleshell (*Epioblasma torulosa rangiana*)
rayed bean (*Villosa fabalis*)
snuffbox (*Epioblasma triquetra*)

Federally Threatened
rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered
elephant-ear (*Elliptio crassidens crassidens*)

State Threatened
Salamander Mussel (*Simpsonaias ambigua*)

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the following listed fish species.
State Endangered
spotted darter *(Etheostoma maculatum)*

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the black-crowned night-heron *(Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If no wetland habitat will be impacted, the project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), 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, the project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). 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 type of habitat will not be impacted, the 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 Survey Report

345 KV BEATTY-GREENE IPP SWITCHING STATION INTERCONNECT PROJECT

MADISON COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:
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Project #: 60687037

September 2022

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1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing installation of a new customer driven substation and associated transmission line routes as part of the 345 kV Beatty-Greene IPP Switching Station Interconnect Project (Project) located in Madison County, Ohio. The Project consists of construction of the proposed Chenoweth Switching Station, a 345kV IPP 3 Breaker Ring Bus Switching Station, that will connect to the IPP substation, and a transmission line tie-in consisting of two structures (between existing structures Structure 191 and 192) to be installed within the 150-ft wide right-of-way (ROW) associated with the existing Beatty-Greene 345 kV transmission line. The Project will also include construction of a permanent access drive to the Chenoweth Switching Station and a line section connecting to the proposed IPP substation. The Survey Area encompasses the Project area located on the Walnut Run, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on Project Overview Map (**Figure 1**).

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

2.0 METHODOLOGY

The field survey was conducted over an area that includes a section of existing transmission line right of way, the proposed access road, the proposed switching station, and the extent of proposed extra workspace, composing a Project survey area of approximately 23.3 acres. Prior to conducting field surveys, digital U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data, and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), FEMA 100-year floodplain data (FEMA), and USGS 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

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 ArcCollector application on iPad tablets. The GPS data was imported into ArcMap Geographic Information System (GIS) 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 study area were assigned a general classification based upon the principal land characteristics and vegetation cover of the location.

2.1 WETLAND DELINEATION

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

During field survey activities AECOM utilized the routine on-site delineation method described in the *1987 Manual* and *Regional Supplements* that consisted of a pedestrian site reconnaissance, including identifying the vegetation 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.

Additionally, USACE Data forms and representative photographs were also taken to represent upland communities where desktop review indicated the potential presence of an aquatic feature based on aerial imagery, two or less wetland criteria were observed, and/or an absence of an aquatic features was observed for areas mapped as an NWI and/or NHD feature.

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 listed.

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 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 QUALITATIVE HABITAT EVALUATION INDEX

The qualitative habitat evaluation index (QHEI) is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive quantitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 40 cm, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the OEPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H are those with a watershed area less than or equal to 20 square miles) versus larger streams (L are those with a watershed area greater than 20 square miles). The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L).

2.2.2 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* (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 mi2 (259ha), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the 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 judgment.

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).

2.2.3 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 for Nationwide Permits. Mapping provided by OEPA illustrate the eligibility of streams in the area for a nationwide 401 permit. Three categories are identified: eligible, ineligible, and possibly eligible with additional field screening required. 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 Ohio EPA's 401 Water Quality Certification 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.

2.2.4 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 OWHM (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, 2007).

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 "waters of the U.S." except in certain circumstances, such as relocated streams.

2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a rare, threatened, and endangered 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 United States Fish and Wildlife Service (USFWS) Ohio Ecological Services Field Office soliciting comments on the proposed Project. Responses were received in July and August 2022, respectively (**Appendix D**). 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 included within the original request to the ODNR, which is included within **Appendix D**. 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 July 12, 2022, and September 13, 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 three wetlands and no streams. The delineated features are discussed in detail in the following sections.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

Soils in delineated wetlands were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Survey, two soil series are mapped within the Project survey area (USDA NRCS 2021a and 2021b). Of these, one soil map units is identified as hydric, and the remaining soils map units were identified has containing hydric inclusions within depressions. **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 (%)
Crosby	CsA	Crosby-Lewisburg silt loams, 0 to 2 percent slopes	Ground moraines, moraines, depressions	Yes*	Kokomo 5%
Kokomo	Ko	Sloan silt loam, Columbus Lowland, 0 to 2 percent slopes, frequently flooded	Depressions, till plains	Yes	Kokomo 90%

NA = Not Applicable or Not Available; Yes* = hydric inclusion

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project survey area does not contain any mapped NWI wetlands as shown on **Figure 2**.

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM identified three PEM, Category 1 wetlands within the Project survey area. AECOM has given each wetland within the Project survey area a provisional determination of isolated. 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 is shown on **Figure 3**. Details for each delineated wetland in the survey area are provided in **Table 3**. Completed USACE data forms and photographs of each wetland are provided in **Appendix A**.

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-SRC-001	39.795878	-83.398508	Yes	PEM	0.111	11.0	1	STR-192	None	None	N/A	N/A	N/A
W-SRC-002	39.795752	-83.399620	Yes	PEM	0.137	11.0	1	STR-192	None	None	N/A	N/A	N/A
W-SRC-003	39.796265	-83.403083	Yes	PEM	0.076	10.0	1	STR-191	None	None	N/A	N/A	N/A
Total:					**0.324**							**N/A**	**N/A**

3.2 STREAM DELINEATION

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

3.2.1 OEPA STREAM ELIGIBILITY

OEPA stream eligibility for 401 Water Quality Certification mapping was reviewed for all of the delineated streams. The Project occurs within one watershed, designated by 401 WQC eligibility, as listed in **Table 3.** This watershed is listed as “possibly eligible”. 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** and no regulated FEMA 100-year floodplains and/or floodways are located within the Project area.

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

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050400060401	Headwaters Blacklick Creek	Possibly Eligible	0
		Total	**0**

3.4 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. A variety of herbaceous lands, as described in **Table 4**, below, are present within the Project survey area, including active agricultural row crop field, transmission line right-of-way, and wetland habitats. Habitat descriptions applicable to the Project are provided below. 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
Agricultural Row Crop	Agricultural row crop field consisted of standing soybean field with sparse areas of herbaceous vegetation.	23.05	99
Wetlands/Streams	Wetlands were observed both within and beyond the survey area for the Project.	0.25	1
Totals:		**23.30**	**100%**

3.5 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

AECOM conducted a rare, threatened, and endangered species review for areas within the Project survey area. A summary of the agency coordination is provided below. Correspondence letters from the USFWS and ODNR for the 345 kV Beatty-Greene IPP Switching Station Interconnect Project are included as **Appendix C**. **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 is provided as **Appendix B**.

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

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Mammals							
Indiana Bat (*Myotis sodalis*)	Endangered	Endangered	Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low-density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.	<u>Summer habitat</u> **No** – The Project survey area consists of agriculture soybean fields and does not provide proper summer habitat. <u>Hibernaculum(a)</u> **No** - No potential hibernaculum was identified within 0.25 miles of the Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area.	<u>Summer Tree Clearing</u> April 1 – September 30	The USFWS state that "Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat." The ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination would be required with both ODNR and USFWS. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. If implementation of seasonal tree clearing is not possible, the ODNR recommends presence/absences surveys be conducted between June 1 and August 15, prior to any cutting. In accordance with the 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided as Attachment D) and ODNR response, limited tree cutting in summer may be permitted after consultation with the ODNR 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 diameter at breast height (DBH) greater than 20-inches. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, 2022 Joint Guidance provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	<u>Summer Habitat:</u> Potentially suitable habitat is not present within the Project area. Tree clearing is not proposed to occur as part of the Project. <u>Hibernaculum:</u> No caves and/or mines are located within one-quarter mile of the Project area. Therefore, disturbance of winter hibernaculum is not anticipated and further coordination with the ODNR is not warranted.
Northern Long-eared Bat (*Myotis septentrionalis*)	Threatened	Threatened	Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel, and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forest and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3-inches dbh that have any exfoliating bark, cracks, crevices, hollows, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. 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, this structure should also be considered potential summer habitat. In the winter, northern long-eared bats hibernate in caves and abandoned mines.	<u>Summer habitat</u> **No** – The Project survey area consists of agriculture soybean fields and does not provide proper summer habitat. <u>Hibernaculum(a)</u> **No** - No potential hibernaculum was identified within 0.25 miles of the Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area.	<u>Summer Tree Clearing</u> April 1 – September 30	The USFWS state that "Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat." The ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the ODNR. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, 2022 Joint Guidance provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	Summer Habitat: Potentially suitable habitat is not present within the Project area. Tree clearing is not proposed to occur as part of the Project. Hibernaculum: No caves and/or mines are located within one-quarter mile of the Project area. Therefore, disturbance of winter hibernaculum is not anticipated and further coordination with the ODNR is not warranted.

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

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Little brown bat (*Myotis lucifugus*)	Endangered	NA	The little brown bat shares similar habitat requirements as other Myotis species including the Indiana bat and northern long-eared bat. This species may roost in trees, attics, or other man-made structures during the summer season. In winter, they may hibernate in caves, mines, or man-made structures with appropriate temperature regimes.	<u>Summer habitat</u> **No** – The Project survey area consists of agriculture soybean fields and does not provide proper summer habitat. <u>Hibernaculum(a)</u> **No** - No potential hibernaculum was identified within 0.25 miles of the Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area	<u>Summer Tree Clearing</u> April 1 – September 30	The USFWS state that "Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat." The ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the ODNR. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, 2022 Joint Guidance provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	Summer Habitat: Potentially suitable habitat is not present within the Project area. Tree clearing is not proposed to occur as part of the Project. Hibernaculum: No caves and/or mines are located within one-quarter mile of the Project area. Therefore, disturbance of winter hibernaculum is not anticipated and further coordination with the ODNR is not warranted.
Tricolored bat (*Perimyotis subflavus*)	Endangered	NA	The tricolored bat primarily roosts in trees during the summer months. During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	<u>Summer habitat</u> **No** – The Project survey area consists of agriculture soybean fields and does not provide proper summer habitat. <u>Hibernaculum(a)</u> **No** - No potential hibernaculum was identified within 0.25 miles of the Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area	<u>Summer Tree Clearing</u> April 1 – September 30	The USFWS state that "Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat." The ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the ODNR. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, 2022 Joint Guidance provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	Summer Habitat: Potentially suitable habitat is not present within the Project area. Tree clearing is not proposed to occur as part of the Project. Hibernaculum: No caves and/or mines are located within one-quarter mile of the Project area. Therefore, disturbance of winter hibernaculum is not anticipated and further coordination with the ODNR is not warranted
Mussels							
Clubshell (*Pleurobema clava*)	Endangered	Endangered	This species can be found in small to medium streams with gravel/sand substrate and relatively little silt.	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.

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

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Northern riffleshell (*Epioblasma torulosa rangiana*)	Endangered	Endangered	This species can be found in small to large streams with firmly packs fine gravel/sand substrate.	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.
Rayed bean (*Villosa fabalis*)	Endangered	Endangered	This species is typically found in small streams and creeks gravel/sand substrate and is often found in and around the roots of aquatic vegetation.	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.
Snuffbox (*Epioblasma triquetra*)	Endangered	Endangered	This species can be found in small to medium rivers with cobble/gravel/sand substrate and often buried deep in sediment.	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.
Rabbitsfoot (*Quadrula cylindrica cylindrica*)	Threatened	Threatened	This species can be found in small to large streams with firmly packs fine gravel/sand substrate.	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.
Elephant-ear (*Ellipito crassidens crassidens*)	Endangered	None	This species can primarily be found in large rivers with mud/fine gravel/sand substrate.	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.
Salamander mussel (*Simpsonaias ambigua*)	Threatened	None	This species can be found in medium to large rivers with mud/fine gravel/sand substrate	No - potentially suitable habitat was not observed within the Project survey area.	N/A	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.

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

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Fish							
Spotted darter *(Etheostoma maculatum)*	Endangered	None	This species is found mainly in lakes, ponds, swamps, and streams**.**	No, streams and ponds are not present, within the Project survey area.	N/A	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	No potentially suitable habitat was observed within the Project survey area.; No further coordination required.
Birds							
Black-crowned night-heron (*Nycticorax nycticorax)*	Threatened	None	This species primarily forages in wetlands and other shallow aquatic habitats, and roost in nearby trees. They nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands.	No - potentially suitable habitat was not observed within the Project survey area	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of May 1 through July 31.	No potentially suitable habitat was observed within the Project survey area
King rail (*Rallus elegans*)	Endangered	None	This species nests in bowls constructed out of grass and usually hidden very well in marsh vegetation.	No potentially suitable habitat was observed for this species	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of May 1 to July 31.	No potentially suitable habitat was observed within the Project survey area.
Northern harrier (*Circus hudsonius*)	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	No potentially suitable habitat was observed for this species	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of April 15 to July 31.	No potentially suitable habitat was observed within the Project survey area.
Sandhill crane *(Grus canadensis)*	Threatened	None	This species is a wetland dependent species. They roost in shallow, standing water or moist bottomlands Breeding ground require large tracts of wet meadow, shallow marsh, or bog for nesting.	No potentially suitable habitat was observed for this species	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of April 1 through August 31.	No potentially suitable habitat was observed within the Project survey area.
Upland sandpiper (*Bartramia longicauda)*	Endangered	None	This species utilizes dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and sometimes the grassy extensions of airports.	No potentially suitable habitat was observed for this species	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of April 15 through July 31.	No potentially suitable habitat was observed within the Project survey area.

ODNR Coordination –

Coordination with the ODNR was initiated during the planning stages of the Project to obtain records of protected species located in the vicinity of the Project. On August 15, 2022, the ODNR Office of Real Estate Environmental Review Section replied to a request for records of protected species within an extended area around the Project site. The Ohio Natural Heritage Database (ONHD) review found no records of state-protected species or state protected resource areas at or within a one-mile radius of the Project survey area.

The ODNR Division of Wildlife (DOW) recommended 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. In addition, the DOW listed multiple state-listed species with known ranges crossed by the Project survey area, including:

- Four mammal species: Indiana bat, northern long-eared bat, little brown bat and tricolored bat;
- Seven mussel species: clubshell, Northern riffleshell, rayed bean, snuffbox, rabbitsfoot, elephant-ear, and salamander mussel;
- One fish species: spotted darter;
- Five bird species: black-crowned night-heron, king rail, northern harrier, sandhill crane, and upland sandpiper.

Potentially suitable habitat for the four bats was not identified in the Project survey area. The Project survey area consists of a soybean field that does not have any woody vegetation present. The DOW recommended that if suitable habitat occurs within the Project area, trees be conserved or cut between October 1 and March 31. If trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting.

The DOW also recommended that a desktop habitat assessment be conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the Project area. A desktop analysis was completed and included as part of the initial coordination with ODNR. The habitat assessment did not result in identification of potential hibernaculum(a) within 0.25 mile of the Project survey area; therefore, no further coordination is warranted with the DOW regarding potential hibernaculum.

The DOW noted that the Project is within the range of the black-crowned night-heron, king rail, northern harrier, sandhill crane, and upland sand piper. The black-crowned night-heron, king rail and sandhill crane are all wetland dependent species that require standing water and/or aquatic vegetation for proper nesting habitat. Although, the Project does contain wetlands, the wetlands present with the Project survey area lack the proper habitat for these species due to them being located within and disturbed by maintained row crop activities. Additionally, habitat for the Northern harrier and upland sandpiper is not present due to the lack of grasslands

within the Project survey area. Proper habitat for any of these species is not present within the Project survey area.

Clubshell, Northern riffleshell, rayed bean, snuffbox, rabbitsfoot, elephant-ear, salamander mussel, and spotted darter were identified by the ODNR as being within range of the Project but due to the location of the project and the absence of in-water work, the Project is not likely to impact these listed species.

USFWS Coordination –

Coordination with the USFWS was also initiated during the planning stages of the Project to obtain technical assistance regarding federally listed species that may occur within the Project area. The USFWS responded on July 26, 2022, noting that due to the Project type, size and location, the USFWS do not anticipated any adverse effect to federally endangered, threatened, or proposed species or proposed or designated critical habitat.

4.0 SUMMARY

The ecological survey of the Project survey area identified a total of three wetlands and no streams. The wetlands within the Project survey area included three PEM wetlands. All the wetlands were identified as Category 1 wetlands. All wetlands have been provisionally classified as isolated.

Of the seventeen state and/or federal listed threatened or endangered species, no, listed species were identified within or as possibly occurring within the Project vicinity. The species listed by the ODNR included four mammals; seven mussels: one fish, and five birds. Based on no proposed tree clearing, avoidance of in-stream work, and absences of species habitats, the Project is not likely to impact these species.

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.

The information contained in this wetland delineation report is for a Project 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

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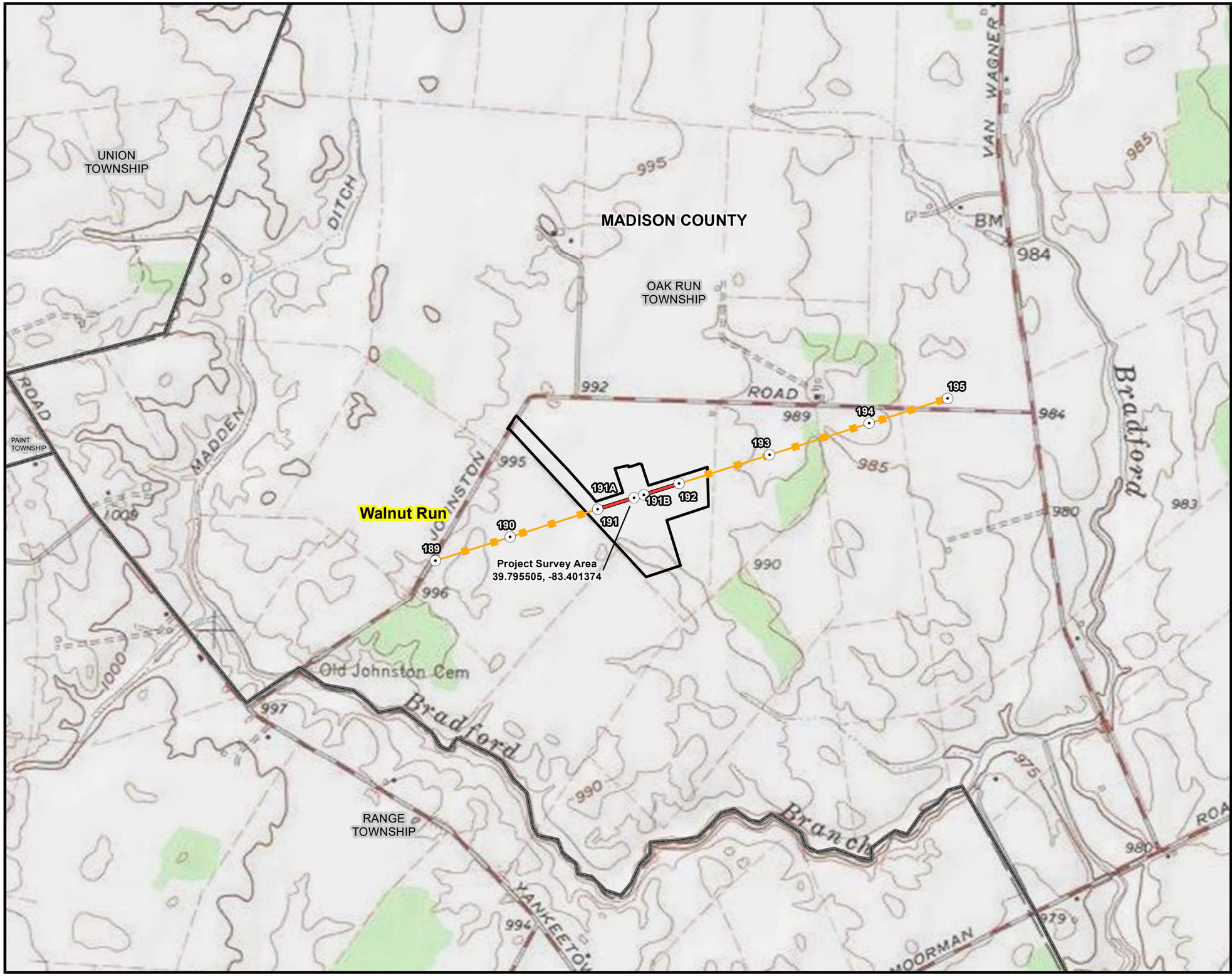


Legend

- Pole Location
- Beatty - Greene 345 kV Transmission Line
- Beatty - Greene 345 kV Transmission Line Tie-In
- Project Survey Area
- Township Boundary
- County Boundary
- Ohio USGS 7.5' Topographic Quadrangle

N

0 500 1,000 2,000

Feet

345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 9/15/2022	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY: BJM
JOB NO.: 60687037	AECOM

Date Saved: 8/19/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\2_WDR\BeattyGreene_WDR_Fig1_ProjectOverview.mxd

Johnston Rd

Johnston Rd

UDF-SRC-001

CsA

CsA

CsA

MADISON COUNTY

South Fork Bradford Creek-Bradford Creek 050600020201

W-SRC-003 PEM Category 1

W-SRC-003-UPL

CsA

UPL-SRC-003

192

W-SRC-001 PEM Category 1

Ko

CsA

UPL-SRC-002

191B

191A

W-SRC-001-UPL

W-SRC-002 PEM Category 1

191

CsB

W-SRC-002-UPL

190

CsA

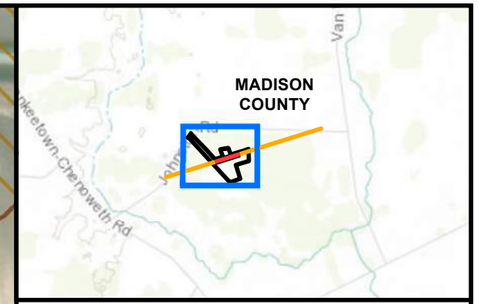
UPL-SRC-001

UDF-SRC-002

CsA

CsA

CsA



Legend

- Pole Location
- Culvert
- Upland Data Point
- Wetland Data Point
- Beatty - Greene 345 kV Transmission Line
- Beatty - Greene 345 kV Transmission Line Tie-In
- Proposed Access Road
- Upland Drainage
- Access Road Right of Way
- Chenoweth Station
- IPP Station
- Proposed Stormwater Pond Location
- 100' x 300', Pull Pad
- 100' x 300', Temporary Work Pad
- Project Survey Area
- Delineated PEM Wetland
- HUC 12 (USGS)
- County Boundary
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

CsA—Crosby-Lewisburg silt loams, 0 to 2 percent slopes
CsB—Crosby-Lewisburg silt loams, 2 to 6 percent slopes
Ko—Kokomo silty clay loam, 0 to 2 percent slopes

N

0 100 200 400

Feet

AEP

345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 2
SOIL MAP AND
NATIONAL WETLAND INVENTORY MAP

DATE: 10/13/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: BJM
JOB NO.: 60687037	AECOM

Date Saved: 10/13/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\2_WDR\BeattyGreene_WDR_Fig2_SSURGO_NWI.mxd

Johnston Rd

UDF-SRC-001

MADISON COUNTY

W-SRC-003
PEM
Category 1

W-SRC-003-UPL

UPL-SRC-003

192

W-SRC-001
PEM
Category 1

UPL-SRC-002

191B

191A

191

W-SRC-001-UPL

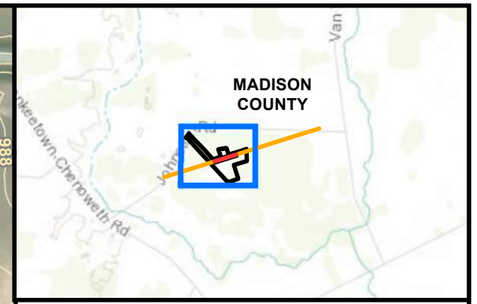
W-SRC-002
PEM
Category 1

W-SRC-002-UPL

190

UPL-SRC-001

UDF-SRC-002



Legend

- Pole Location
- Photo Location
- Culvert
- Upland Data Point
- Wetland Data Point
- Beatty - Greene 345 kV Transmission Line
- Beatty - Greene 345 kV Transmission Line Tie-In
- Proposed Access Road
- Upland Drainage
- Contour (1-Ft)
- Access Road Right of Way
- Chenoweth Station
- IPP Station
- Proposed Stormwater Pond Location
- 100' x 300', Pull Pad
- 100' x 300', Temporary Work Pad
- Project Survey Area
- Delineated PEM Wetland
- County Boundary

N

0 100 200 400

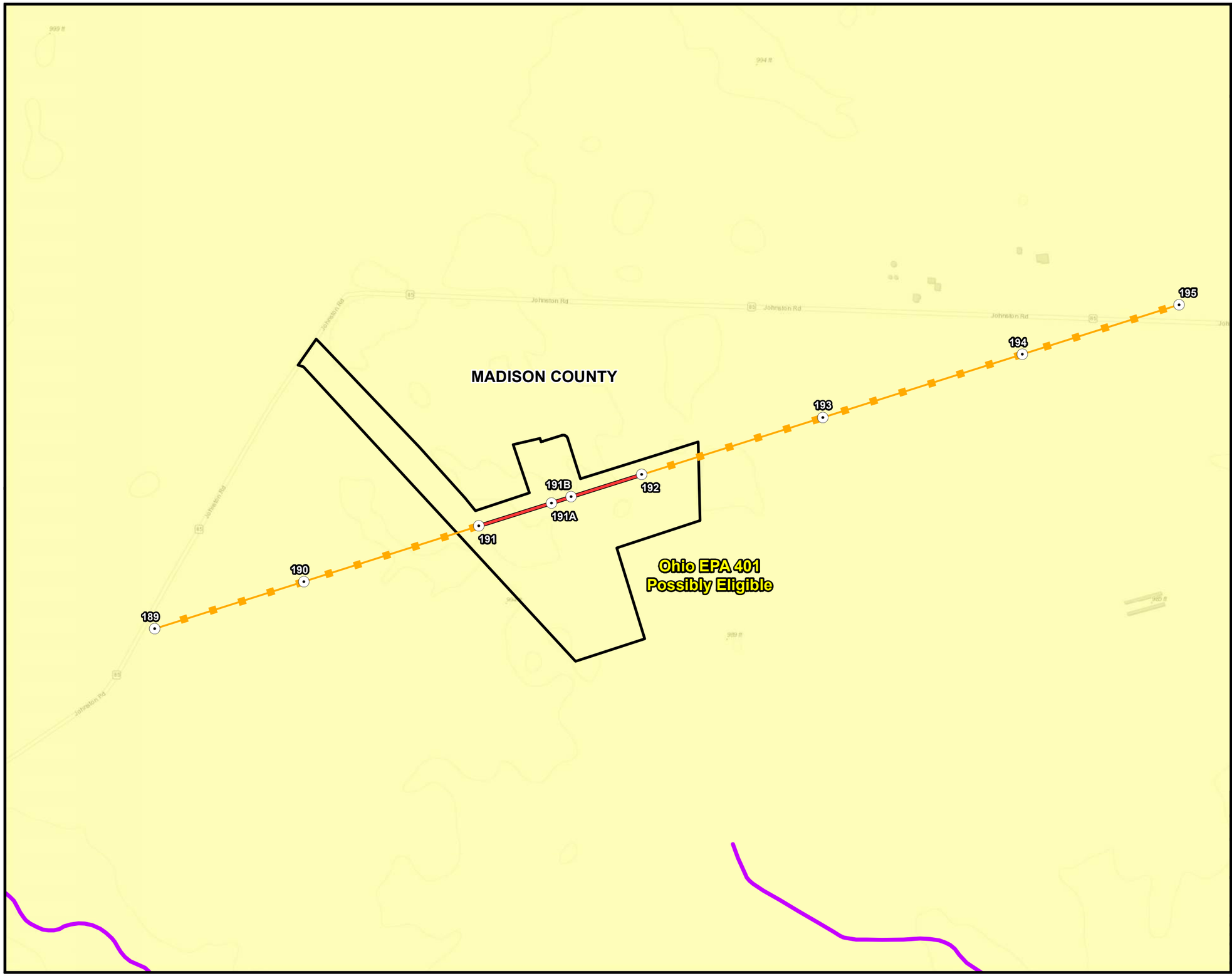
Feet

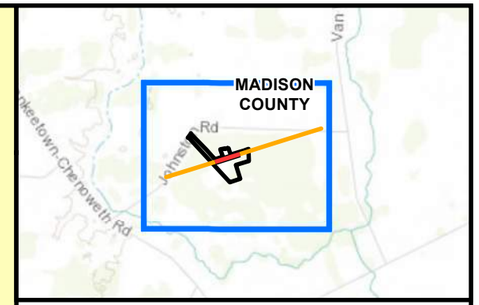
345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 3
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 10/13/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: BJM
JOB NO.: 60687037	AECOM

Date Saved: 10/13/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\2_WDR\BeattyGreene_WDR_Fig3_Wetland_Stream.mxd





Legend

- Pole Location
- Beatty - Greene 345 kV Transmission Line
- Beatty - Greene 345 kV Transmission Line Tie-In
- NHD Stream (USGS)
- Project Survey Area
- County Boundary

OEPA Stream Eligibility:

- Possibly Eligible

N

0 250 500 1,000

Feet

345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 4
STREAM ELIGIBILITY MAP

DATE: 9/15/2022	1 INCH = 500 FEET
CREATED BY: PMH	CHECKED BY: BJM
JOB NO.: 60687037	AECOM

Date Saved: 9/15/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\2_WDR\BeattyGreene_WDR_Fig4_StreamEligibility.mxd

Johnston Rd

Johnston Rd

MADISON COUNTY

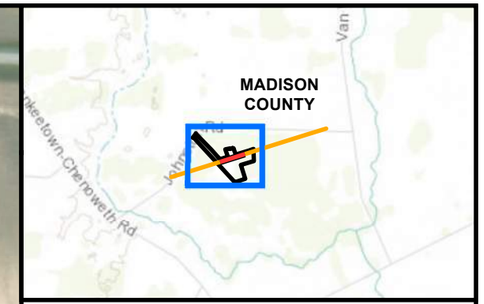
192

191B

191A

191

190



Legend

- Photo Location
- Pole Location
- Beatty - Greene 345 kV Transmission Line
- Beatty - Greene 345 kV Transmission Line Tie-In
- Project Survey Area

Vegetative Community Type

- Agricultural Row-crop
- Streams/Wetlands

N

0 100 200 400

Feet

345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 5
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 9/15/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: BJM
JOB NO.: 60687037	AECOM

Date Saved: 9/15/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\2_WDR\BeattyGreene_WDR_Fig5_VegetativeCommunities.mxd

APPENDIX A

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 – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Tranmission Company State: OH Sampling Point: W-SRC-001

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.795773 Long: -83.398487 Datum: WGS 1984

Soil Map Unit Name: CsA: Crosby-Lewisburg silt loams, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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-SRC-001, a PEM wetland. The sample point is located within a depression in an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. *Echinochloa crus-galli*	30	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30 =Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 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** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation met the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans, however hydrophytic recruits were observed within the sample strata.

SOIL

Sampling Point: W-SRC-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
0-4	10YR 4/2	100					Loamy/Clayey	
4-10	10YR 4/2	95	7.5YR 4/6	5	C	M	Loamy/Clayey	
10-16	10YR 4/2	90	7.5YR 4/6	10	C	M	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)
- ___ 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 met the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- X Stunted or Stressed Plants (D1)
- X 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:

Multiple indicators of wetland hydrology were present at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: W-SRC-001-UPL

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.795866 Long: -83.399116 Datum: WGS 1984

Soil Map Unit Name: Ko: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
This sample point is representative of the upland areas adjacent to Wetland 001. The sample point is located in an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 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.)
Vegetation did not meet the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans.

SOIL

Sampling Point: W-SRC-001-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
0-16	10YR 3/1	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)
- ___ 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 did not meet the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- ___ 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** ___ **No** X

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

Remarks:

No indicators of wetland hydrology were observed at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: W-SRC-002

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.795784 Long: -83.399660 Datum: WGS 1984

Soil Map Unit Name: CsA: Crosby-Lewisburg silt loams, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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 ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
This sample point is representative of W-SRC-002, a PEM wetland. The sample point is located within a depression in an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. *Echinochloa crus-galli*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20 =Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 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** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation met the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans, however hydrophytic recruits were observed within the sample strata.

SOIL

Sampling Point: W-SRC-002

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
0-6	10YR 4/2	90	7.5YR 5/6	10	C	PL/M	Loamy/Clayey	
6-16	10YR 4/2	75	7.5YR 5/6	25	C	M	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)
- ___ 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: Clay

Depth (inches): 6

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

Remarks:

The soil profile met the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- X Stunted or Stressed Plants (D1)
- X 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 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:

Multiple indicators of wetland hydrology were present at the time of investigation. Saturation was present without a High Water Table likely due to increased amounts of clay in the lower portion of the soil profile perching stormwater hydrology and creating epi-saturated conditions from 0-6 inches. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: W-SRC-002-UPL

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 2 Lat: 39.794916 Long: -83.400468 Datum: WGS 1984

Soil Map Unit Name: Ko: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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 representative of the upland areas adjacent to Wetland 002. The sample point is located within a concave swale in an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
____ 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.)
Vegetation did not meet the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans.

SOIL

Sampling Point: W-SRC-002-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
0-4	10YR 3/1	100					Loamy/Clayey	
4-16	10YR 4/2	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)
- ___ 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 did not meet the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X 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:

Multiple indicators of wetland hydrology were observed at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: W-SRC-003

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.796309 Long: -83.403195 Datum: WGS 1984

Soil Map Unit Name: Ko: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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-SRC-003, a PEM wetland. The sample point is located within a depression in an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. *Echinochloa crus-galli*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10 =Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 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** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation met the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans, however hydrophytic recruits were observed within the sample strata.

SOIL

Sampling Point: W-SRC-003

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 3/1	100					Loamy/Clayey	
4-14	10YR 3/1	95	7.5YR 4/6	5	C	M	Loamy/Clayey	
14-16	10YR 3/1	90	7.5YR 4/6	10	C	M	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)
- ___ 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)
- X 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 met the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- X Stunted or Stressed Plants (D1)
- X 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:

Multiple indicators of wetland hydrology were present at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: W-SRC-003-UPL

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.796637 Long: -83.403952 Datum: WGS 1984

Soil Map Unit Name: Ko: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
This sample point is representative of the upland areas adjacent to Wetland 003. The sample located is located in an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 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** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation did not meet the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans.

SOIL

Sampling Point: W-SRC-003-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
0-16	10YR 3/1	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)
- ___ 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 did not meet the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- ___ 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)
- X 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** ___ **No** X

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

Remarks:

One secondary indicator of wetland hydrology was observed at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/2022

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: UPL-SRC-001

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.794350 Long: -83.401001 Datum: WGS 1984

Soil Map Unit Name: Ko: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
This upland smaple point is representative of an active agricultural row crop field. The sample point is located in a soybean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 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.)
Vegetation did not meet the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans.

SOIL

Sampling Point: UPL-SRC-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
0-16	10YR 3/1	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)
- ___ 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 did not meet the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- ___ 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)
- X 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

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

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

Remarks:

One secondary indicator of wetland hydrology was observed at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 7/12/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: UPL-SRC-002

Investigator(s): Spencer Chronister and Cameron Wyse Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.795582 Long: -83.401270 Datum: WGS 1984

Soil Map Unit Name: Ko: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
This upland sample point is representative of an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 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.)
Vegetation did not meet the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans.

SOIL

Sampling Point: UPL-SRC-002

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	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)
- ___ 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 did not meet the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- ___ 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)
- X 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** ___ **No** X

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

Remarks:

One secondary indicator of wetland hydrology was observed at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: 345 kV Beatty-Greene IPP Switching Station Interconnect Project City/County: Madison County Sampling Date: 9/13/22

Applicant/Owner: AEP Ohio Transmission Company State: OH Sampling Point: UPL-SRC-003

Investigator(s): Spencer Chronister and Londale Payne Section, Township, Range: Oak Run Township

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

Slope (%): 1 Lat: 39.7963 Long: -83.4006 Datum: NAD83

Soil Map Unit Name: CsA: Crosby-Lewisburg silt loams, 0 to 2 percent slopes NWI classification: N/A

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

Are Vegetation X , Soil X , or Hydrology X 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 ____	No X	

Remarks:
This upland sample point is representative of an active agricultural row crop field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. *Setaria faberi*	20	Yes	FACU
2. *Echinochloa crus-galli*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 =Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (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	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 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.)
Vegetation did not meet the criteria to be considered hydrophytic at the time of investigation. Vegetation was significantly disturbed by agricultural activity. Vegetation was dominated by standing soybeans.

SOIL

Sampling Point: UPL-SRC-003

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 4/2	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)
- ___ 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 did not meet the criteria to be considered hydric at the time of investigation. The soil profile was significantly disturbed by agricultural activity.

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)
- ___ 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)
- X 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** ____ **No** X

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

Remarks:

One secondary indicator of wetland hydrology was observed at the time of investigation. Hydrology was significantly disturbed due to the presence of drainage tiles in the agricultural field.

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 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.

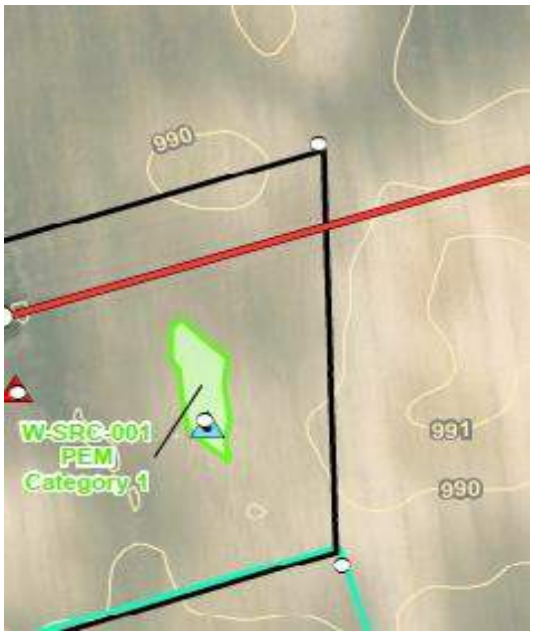
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual 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:	**Spencer R. Chronister**
Date:	**7/12/2022**
Affiliation:	**AECOM Technical Services, Inc.**
Address:	**681 Anderson Drive, Suite 400, Pittsburgh, PA 15220**
Phone Number:	**412-503-4700**
e-mail address:	Spencer.Chronister@aecom.com
Name of Wetland:	**W-SRC-001**
Vegetation Communit(ies):	**Palustrine Emergent**
HGM Class(es):	**DEPRESS**

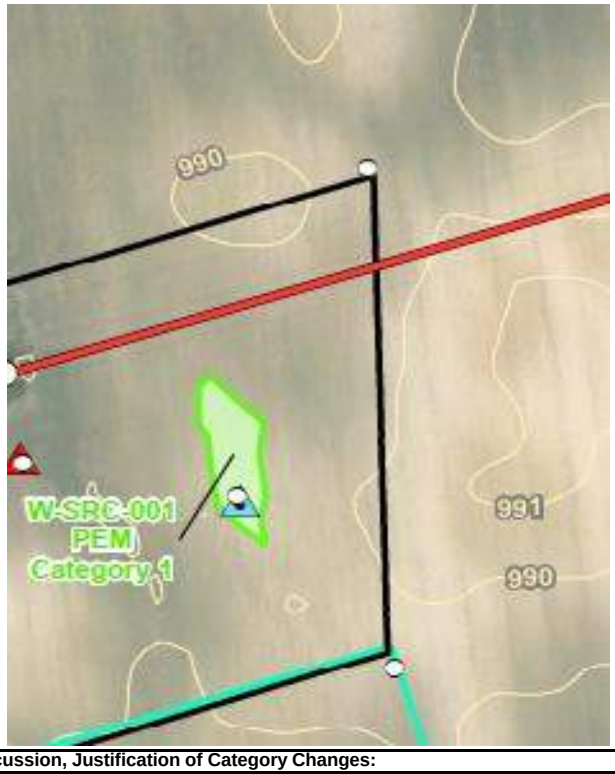
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate:	**39.795773, -83.398487**
USGS Quad Name:	**Walnut Run**
County:	**Madison**
Township:	**Oak Run Township**
Section and Subsection:	**Virginia Military District**
Hydrologic Unit Code:	**HUC - 050600020201**
Site Visit:	**7/12/2022**
National Wetland Inventory Map:	**N/A**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**CsA: Crosby-Lewisburg silt loams, 0 to 2 percent slopes**
Delineation report/map:	**See Figure 2**

Name of Wetland:	W-SRC-001		
Wetland Size (delineated acres):	0.11	Wetland Size (Estimated total acres):	0.11

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



Comments, Narrative Discussion, Justification of Category Changes:

This sample point is representative of W-SRC-001, a PEM wetland. The sample point is located within a depression in an active agricultural row crop field. Vegetation, Soils, and Hydrology appeared to be significantly disturbed at the time of investigation due to agricultural acrivity and the presence of drainage tiles.

Final score:	11	Category:	1

Wetland ID:	W-SRC-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-SRC-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-SRC-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-SRC-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-SRC-001

Site:	345 kV Beatty-Greene IPP Switching Station Interconnect Project	Rater(s):	Spencer R. Chronister	Date:	7/12/2022

Field ID:

W-SRC-001

Delineated acres:	0.11
Total acres:	0.11

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (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)

Metric 2. Upland buffers and surrounding land use.

1.0 (max 14 pts.) | 2.0 (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)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [x] 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)
- [ ] 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)

Metric 3. Hydrology.

4.0 (max 30 pts.) | 6.0 (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)
- [ ] 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.

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.0 (max 20 pts.) | 9.0 (subtotal)

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

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

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] 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
- [x] nutrient enrichment

9.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-SRC-001

Site:	345 kV Beatty-Greene IPP Switching Station Interconnect Proje	Rater(s):	Spencer R. Chronister	Date:	7/12/2022

Field ID:
W-SRC-001

9.0
subtotal this page

0.0 max 10 pts. **9.0** 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)

2.0 max 20pts. **11.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

0	Aquatic bed
1	Emergent
0	Shrub
0	Forest
0	Mudflats
0	Open water
0	Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] 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.

0	Vegetated hummucks/tussucks
0	Coarse woody debris >15cm (6in)
0	Standing dead >25cm (10in) dbh
0	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	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

11.0 **TOTAL (Max 100 pts)**
1 **Category**

Wetland ID:	W-SRC-001

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	**1**		
	Metric 3. Hydrology	**4**		
	Metric 4. Habitat	**3**		
	Metric 5. Special Wetland Communities	**0**		
	Metric 6. Plant communities, interspersion, microtopography	**2**		
	TOTAL SCORE	**11**		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-SRC-001

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 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.

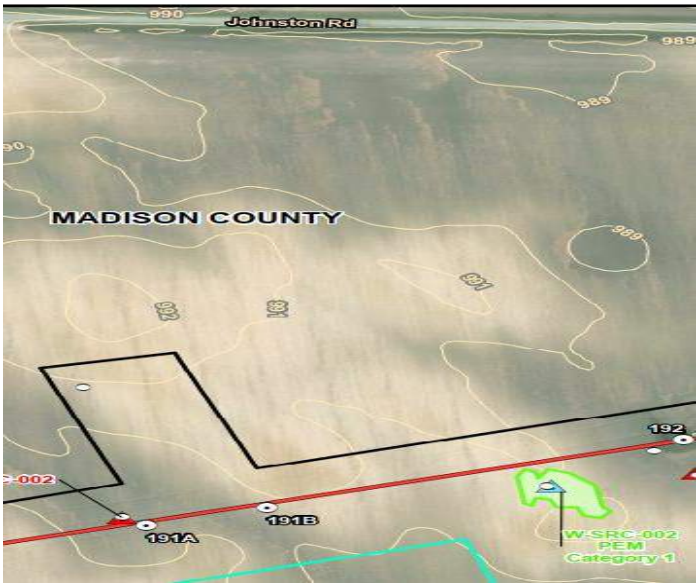
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual 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:	**Spencer R. Chronister**
Date:	**7/12/2022**
Affiliation:	**AECOM Technical Services, Inc.**
Address:	**681 Anderson Drive, Suite 400, Pittsburgh, PA 15220**
Phone Number:	**412-503-4700**
e-mail address:	Spencer.Chronister@aecom.com
Name of Wetland:	**W-SRC-002**
Vegetation Communit(ies):	**Palustrine Emergent**
HGM Class(es):	**DEPRESS**

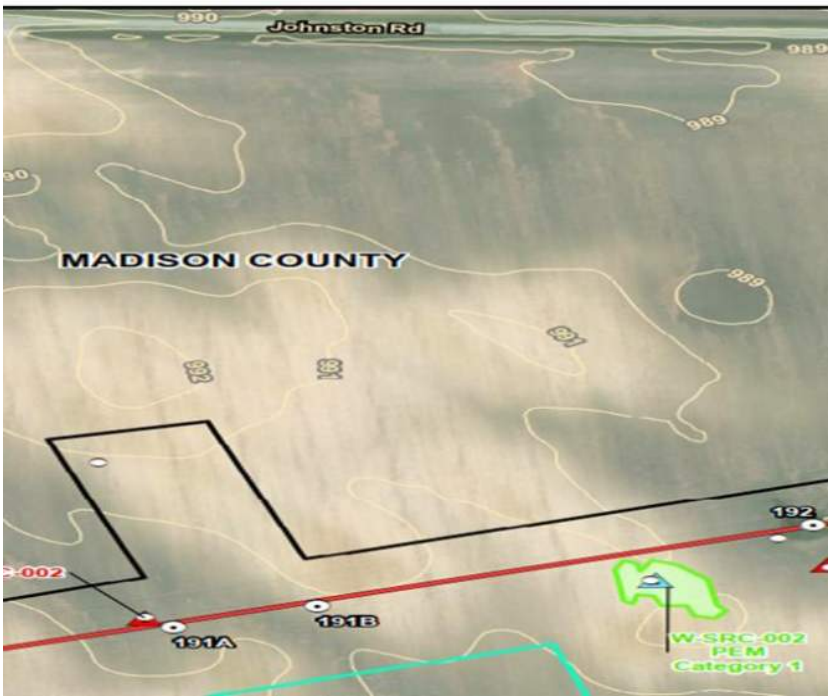
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate:	**39.795784, -83.399660**
USGS Quad Name:	**Walnut Run**
County:	**Madison**
Township:	**Oak Run Township**
Section and Subsection:	**Virginia Military District**
Hydrologic Unit Code:	**HUC - 050600020201**
Site Visit:	**7/12/2022**
National Wetland Inventory Map:	**N/A**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**CsA: Crosby-Lewisburg silt loams, 0 to 2 percent slopes**
Delineation report/map:	**See Figure 2**

Name of Wetland:	W-SRC-002		
Wetland Size (delineated acres):	0.14	Wetland Size (Estimated total acres):	0.14

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



Comments, Narrative Discussion, Justification of Category Changes:

This sample point is representative of W-SRC-002, a PEM wetland. The sample point is located within a depression in an active agricultural row crop field. Vegetation, Soils, and Hydrology appeared to be significantly disturbed at the time of investigation due to agricultural acrivity and the presence of drainage tiles.

Final score:	11	Category:	1

Wetland ID:	W-SRC-002

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-SRC-002

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-SRC-002

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-SRC-002

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-SRC-002

Site:	345 kV Beatty-Greene IPP Switching Station Interconnect Project	Rater(s):	Spencer R. Chronister	Date:	7/12/2022

Field ID:

W-SRC-002

Delineated acres:	0.14
Total acres:	0.14

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (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)

Metric 2. Upland buffers and surrounding land use.

1.0 (max 14 pts.) | 2.0 (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)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [x] 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)
- [ ] 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)

Metric 3. Hydrology.

4.0 (max 30 pts.) | 6.0 (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)
- [ ] 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.

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.0 (max 20 pts.) | 9.0 (subtotal)

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

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

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] 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
- [x] nutrient enrichment

9.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-SRC-002

Site:	345 kV Beatty-Greene IPP Switching Station Interconnect Proje	Rater(s):	Spencer R. Chronister	Date:	7/12/2022

Field ID:
W-SRC-002

9.0
subtotal this page

0.0 max 10 pts. **9.0** 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)

2.0 max 20pts. **11.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

0	Aquatic bed
1	Emergent
0	Shrub
0	Forest
0	Mudflats
0	Open water
0	Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] 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.

0	Vegetated hummucks/tussucks
0	Coarse woody debris >15cm (6in)
0	Standing dead >25cm (10in) dbh
0	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	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

11.0 **TOTAL (Max 100 pts)**
1 **Category**

Wetland ID:	W-SRC-002

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	**1**		
	Metric 3. Hydrology	**4**		
	Metric 4. Habitat	**3**		
	Metric 5. Special Wetland Communities	**0**		
	Metric 6. Plant communities, interspersion, microtopography	**2**		
	TOTAL SCORE	**11**		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-SRC-002

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 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:	**Spencer R. Chronister**
Date:	**7/12/2022**
Affiliation:	**AECOM Technical Services, Inc.**
Address:	**681 Anderson Drive, Suite 400, Pittsburgh, PA 15220**
Phone Number:	**412-503-4700**
e-mail address:	Spencer.Chronister@aecom.com
Name of Wetland:	**W-SRC-003**
Vegetation Communit(ies):	**Palustrine Emergent**
HGM Class(es):	**DEPRESS**

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

Lat/Long or UTM Coordinate:	**39.796309, -83.403195**
USGS Quad Name:	**Walnut Run**
County:	**Madison**
Township:	**Oak Run Township**
Section and Subsection:	**Virginia Military District**
Hydrologic Unit Code:	**HUC - 050600020201**
Site Visit:	**7/12/2022**
National Wetland Inventory Map:	**N/A**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**Ko: Kokomo silty clay loam, 0 to 2 percent slopes**
Delineation report/map:	**See Figure 2**

Name of Wetland:	W-SRC-003		
Wetland Size (delineated acres):	0.08	Wetland Size (Estimated total acres):	N/A

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

Comments, Narrative Discussion, Justification of Category Changes:

This sample point is representative of W-SRC-003, a PEM wetland. The sample point is located within a depression in an active agricultural row crop field. Vegetation, Soils, and Hydrology appeared to be significantly disturbed at the time of investigation due to agricultural acrivity and the presence of drainage tiles.

Final score:	10	Category:	1

Wetland ID:	W-SRC-003

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-SRC-003

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-SRC-003

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-SRC-003

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-SRC-003

Site:	345 kV Beatty-Greene IPP Switching Station Interconnect Project	Rater(s):	Spencer R. Chronister	Date:	7/12/2022

Field ID:

W-SRC-003

Delineated acres:	0.08
Total acres:	N/A

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (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)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1.0 (max 14 pts.) | 1.0 (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)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [x] 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)
- [ ] 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)

Metric 3. Hydrology.

4.0 (max 30 pts.) | 5.0 (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)
- [ ] 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.

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.0 (max 20 pts.) | 8.0 (subtotal)

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

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

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] 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
- [x] nutrient enrichment

8.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-SRC-003

Site:	345 kV Beatty-Greene IPP Switching Station Interconnect Proje	Rater(s):	Spencer R. Chronister	Date:	7/12/2022

Field ID:

W-SRC-003

8.0
subtotal this page

0.0 max 10 pts. **8.0** 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)

2.0 max 20pts. **10.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] 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.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] 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	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

10.0 **TOTAL (Max 100 pts)**

1 **Category**

Wetland ID:	W-SRC-003

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	**0**		
	Metric 2. Buffers and surrounding land use	**1**		
	Metric 3. Hydrology	**4**		
	Metric 4. Habitat	**3**		
	Metric 5. Special Wetland Communities	**0**		
	Metric 6. Plant communities, interspersion, microtopography	**2**		
	TOTAL SCORE	**10**		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-SRC-003

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
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-001 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing North	

W-SRC-001 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-001 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing South	

W-SRC-001 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-001	
Date: July 12, 2022	
Description: PEM Wetland Category I Soil Pit	

W-SRC-002	
Date: July 12, 2022	
Description: PEM Wetland Category I Facing North	

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PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-002

Date:

July 12, 2022

Description:

PEM Wetland

Category I

Facing East

W-SRC-002

Date:

July 12, 2022

Description:

PEM Wetland

Category I

Facing South

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-002 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing West	

W-SRC-002 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Soil Pit	

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PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-003 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing North	

W-SRC-003 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-003 **Date:** July 12, 2022 **Description:** PEM Wetland Category I Facing South	

W-SRC-003 **Date:** July 12, 2022 **Description:** PEM Wetland Category I West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

W-SRC-003

Date:

July 12, 2022

Description:

PEM Wetland

Category I

Soil Pit

APPENDIX B

THREATENED AND ENDANGERED SPECIES HABITAT PHOTOGRAPHS

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	345 kV Beatty-Greene IPP Switching Station Interconnect Project	60687037

Habitat
Date: July 12, 2022
Description: Agricultural Row Crop Habitat Facing West

Habitat
Date: July 12, 2022
Description: Wetland/Streams Habitat Facing East

APPENDIX C

AGENCY COORDINATION

Holmes, Joshua

From: Ohio, FW3 <ohio@fws.gov>
Sent: Tuesday, July 26, 2022 10:07 AM
To: Holmes, Joshua
Cc: Buchanan, Becky; Shannon T Hemmerly; Claire E
Subject: [EXTERNAL] AEP 345 kV Beatty-Greene IPP Switching Station Interconnect Project, Madison County, Ohio

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

Project Code: 2022-0058622

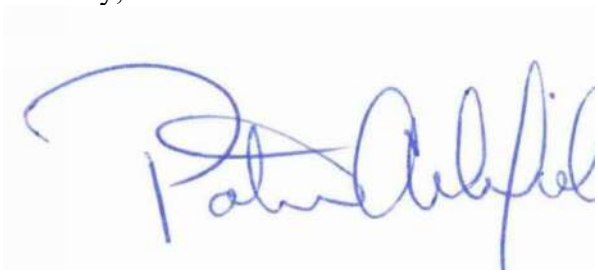
Dear Mr. Holmes,

The U.S. Fish and Wildlife Service (Service) 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 effects to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat. If there are any project modifications during the term of this action, or additional information for listed or proposed species or their critical habitat becomes available, or if new information reveals effects of the action that were not previously considered, then please contact us for additional project review.

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,



Patrice M. Ashfield
Field Office Supervisor

Office of Real Estate
John Kessler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

August 15, 2022

Joshua Holmes
AECOM
Foster Plaza 6
681 Anderson Drive, Suite 120
Pittsburgh, Pennsylvania 15220, USA

Re: 22-0742; AEP Beatty - Greene Switching Station Interconnect Project

Project: The proposed project involves construction of the proposed Chenoweth Switching Station, and a transmission line tie-in consisting of two structures to be installed along the existing Beatty-Greene 345 kV transmission line.

Location: The proposed project is located in Oak Run Township, Madison County, Ohio.

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

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

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

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

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

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

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

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

The project is within the range of the following listed mussel species.
Federally Endangered
clubshell (*Pleurobema clava*)
Northern riffleshell (*Epioblasma torulosa rangiana*)
rayed bean (*Villosa fabalis*)
snuffbox (*Epioblasma triquetra*)

Federally Threatened
rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered
elephant-ear (*Elliptio crassidens crassidens*)

State Threatened
Salamander Mussel (*Simpsonaias ambigua*)

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the following listed fish species.
State Endangered
spotted darter *(Etheostoma maculatum)*

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the black-crowned night-heron *(Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If no wetland habitat will be impacted, the project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), 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, the project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). 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 type of habitat will not be impacted, the 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

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054

July 20, 2022

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, 345 kV Beatty-Greene IPP Switching Station Interconnect Project, Madison County, Ohio

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete an environmental review for the proposed 345kV Beatty-Greene Switching Station Interconnect Project (Project) in Madison County, Ohio. The Project consists of construction of the proposed Chenoweth Switching Station, a 345kV IPP 3 Breaker Ring Bus Switching Station, that will connect to the IPP substation, and a transmission line tie-in consisting of two structures to be installed along the existing Beatty-Greene 345 kV transmission line. The project will also include a proposed permanent access drive. The proposed project area is approximately 22.0-acres. The proposed transmission tie-in will occur within a 900-foot span between existing structures 191 and 192, with a right-of-way (ROW) width of 150 feet, plus a line section connecting to the proposed station. The Project is located on the Walnut Run, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on Project 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. 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, no documented underground or surface mines as well as mine entrances or openings are located within 0.25-mile of the Project. The closest mine is approximately 3.34-miles northwest of the proposed Project location. Additionally, no karst features were identified within 0.25-mile of the Project. The closest karst feature is approximately 10.06-miles northeast of the proposed Project location. Therefore, the Project activities are not likely to significantly affect any potential hibernacula associated with karst features or mining activities outside of the 0.25-mile 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,

Rebecca Buchanan, CPESC
Project Manager
Impact Assessment & Permitting

Attachments: Figure 1 – Topographic Project Overview
Figure 2 – Aerial Project Overview
Electronic Shapefiles (.shp)

CC: Claire E. Kwiatkowski
Senior Environmental Associate
Phone: (312-269-3136)
claire.e.kwiatkowski@sargentlundy.com

Shannon Hemmerly
American Electric Power
Phone (740-350-6240)
sthemmerly@aep.com

No mining activities, karst features, and/or sink holes are within the extent of the map frame.
The closest mine is approximately 3.34 miles north-north east of the Project.
The closest karst feature is approximately 10.06 miles north east of the Project.

UNION TOWNSHIP
OAK RUN TOWNSHIP
RANGE TOWNSHIP
PAINT TOWNSHIP
Approximate Survey Area
39.795505, -83.401374
Walnut Run
Old Johnston Cem
Bradford
Branch
DITCH
ROAD
MADDEN
VAN WAGNER
JOHNSTON
YANKEETOWN
MOORMAN
BM
995
996
997
1000
992
989
984
985
990
980
983
975
994

MADISON COUNTY
Yankeetown-Chenoweth Rd
Danville Rd

Legend

- Quarter Mile Review Area
- Project Area for Survey
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

Karst Geology of Ohio

- Silurian- and Devonian-age carbonate bedrock overlain by more than 20 feet of glacial drift and/or alluvium

N

0 500 1,000 2,000
Feet

345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 6/29/2022	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY: JH
JOB NO.: 60687037	AECOM

Date Saved: 6/29/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\0_Agency Letters\BeattyGreene_ODNR_Fig1_ProjectOverview.mxd

No mining activities, karst features, and/or sink holes are within the extent of the map frame.
The closest mine is approximately 3.34 miles north-north east of the Project.
The closest karst feature is approximately 10.06 miles north east of the Project.

UNION TOWNSHIP

OAK RUN TOWNSHIP

PAINT TOWNSHIP

RANGE TOWNSHIP

Approximate Survey Area
39.795505, -83.401374

Walnut Run

Legend

- Quarter Mile Review Area
- Project Area for Survey
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

Karst Geology of Ohio

- Silurian- and Devonian-age carbonate bedrock overlain by more than 20 feet of glacial drift and/or alluvium

N

0 500 1,000 2,000

Feet

345kV Beatty - Greene
IPP Switching Station
Interconnect Project

FIGURE 2
AERIAL PROJECT OVERVIEW

DATE: 6/29/2022	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY: JH
JOB NO.: 60687037	AECOM

Date Saved: 6/28/2022
Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60687037_AEP_Beatty_Greene_IPP\3_MXDs\0_Agency Letters\BeattyGreene_ODNR_Fig2_ProjectOverview.mxd