

Letter of Notification for Elk Extension North 138 kV Line Adjustment Project



An **AEP** Company

BOUNDLESS ENERGY™

PUCO Case No. 23-0985-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.

December 8, 2023

LETTER OF NOTIFICATION

**AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project**

4906-6-05

AEP Ohio Transmission Company, Inc. (“AEP Ohio Transco” or 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 is proposing the Elk Extension North 138 kV Line Adjustment Project (the “Project”) in Elk Township, Vinton County, Ohio. The Project involves shifting structures along the Elk Extension North 138 kV line, to accommodate the expansion of the existing non-jurisdictional Elk Station, needed for the interconnection of an Independent Power Producer’s (IPP) solar facility. The length of the Elk Extension North 138 kV Line to be adjusted is 0.2 mile. Portions of the adjusted line will require new right-of-way (“ROW”). Figure 1 in Appendix A shows the location of the Project area in relation to the surrounding vicinity. Figure 2 in Appendix A shows the Project area for the transmission line installation.

The Project meets the requirements for a Letter of Notification (“LON”) because it is within the types of projects defined by item (1)(b) of Appendix A to O.A.C. 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*. This item states:

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

(b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.

The Project has been assigned PUCO Case No. 23-0985-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.

The Project involves removing one structure and installing four new structures along the Elk Extension North 138 kV line, due to Ohio Power Company expanding the non-jurisdictional Elk Station. The purpose

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of the expansion is to provide a 138 kV interconnection to an IPP solar facility. As a result, the Elk Extension North 138 kV transmission line must be adjusted to reconnect the double-circuit line to Elk Station. The expansion area is partially located on property owned by Ohio Power Company.

A new 0.1-mile 138 kV transmission line will be constructed from the substation expansion area and connect to the IPP's 138 kV transmission line (to be filed as a Construction Notice under Case No. 23-0986-EL-BNR).

This project is related to the Company's obligation to connect AC1-194 per the PJM IPP Tariff. The Project was listed in the Company's 2023 Long-Term Forecast Report (See Appendix B) and the N-Number for this project is N5675.

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 Project is located in Elk Township, Vinton County, Ohio. Figures 1 and 2 in Appendix A show the location of the proposed Project in relation to existing transmission facilities.

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 requires 0.2 mile of 138 kV electric transmission line to be relocated due to the Elk Station expansion, which is needed for an IPP's approved solar farm. No other alternatives were considered for the Project. Other alternatives would add additional transmission length to the Project without any additional benefit. The proposed Project is not anticipated to impact streams or any known cultural resource areas eligible for the National Register of Historic Places (NRHP). One transmission line structure is proposed to be installed within a palustrine emergent wetland (Wetland 2) and additional portions of the palustrine emergent wetland will likely be temporarily impacted by timber mat workspaces and/or timber mat access roads during construction. Impacts to the wetland will be minimal and will total less than 0.1 acre. Other alignments for the Project would potentially impact more areas of wetland. 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.

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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, and contiguous owners. 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. An electronic copy of the LON will be served to the public library in each political subdivision affected by this proposed Project. Lastly, AEP Ohio Transco also retains ROW land agents who discuss project timelines, construction, and restoration activities with affected owners and tenants.

B(6) Construction Schedule

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

Construction is planned to start in March of 2024 and the anticipated in-service date will be December of 2024.

B(7) Area Map

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

Figure 1 in Appendix A provides a topographical map (McArthur, OH and Zaleski, OH topographic quadrangles) of existing and proposed facilities at 1:24,000, and Figure 2 in Appendix A provides an aerial image from 2021 showing roads and highways, clearly marked with Project components.

To visit the Project from Columbus, take US-33 E for 47.2 miles to Logan. Take the exit for OH-664. Take OH-93 S for 22.8 miles to E Main Street/US-50 E in McArthur. Take a left on E Main Street/US-50 E to Morgan Road (0.8 mi). Go north on Morgan Road for 0.5 miles. The Project is located on the left, east of Morgan Road. The latitude and longitude coordinates for the Project are 39°14'55.99"N and 82°27'42.24"W, respectively.

B(8) Property Agreements

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

A list of properties for which the Company will need to obtain easements/options for the Project is provided in the table below.

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Property Parcel Number	Agreement Type	Easement Agreement Obtained (Yes/No)
05-00397.000	Supplemental Easement	Yes
05-00397.006	New Easement	Yes
05-00397.005	Existing Easement	Yes

B(9) Technical Features

The applicant shall describe the following information regarding the technical features of the Project:

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

The transmission line construction is estimated to include the following:

Voltage: 138 kV
Conductors: 1233.6 KCM 38/19 ACSR Yukon
Static Wire: 7#8 Alumoweld
Insulators: Polymer Dead End Insulators with Corona Ring
ROW Width: 100 Feet
Structure Types: Four (4) single circuit galvanized steel pole, vertical deadend structures on drilled pier concrete foundations
One (1) single circuit galvanized steel pole, custom deadend structure on drilled pier concrete foundations

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.

This Project is not located within 100 feet of any occupied residences or institutions. Therefore, this section is not applicable.

B(9)(c) Project Cost

The estimated capital cost of the project.

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The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$2,928,100 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.

The Project is located in Elk Township, Vinton County, Ohio. The Vinton County Auditor website (<https://www.vintoncountyauditor.org/>) lists the land use in the Project area as “IC – Industrial/Commercial”, “AG - Agricultural”, and “SM - Small Acres”. Field observations indicated that the Project area is primarily comprised of new field (1.8 acres) habitat, with equal amounts of early successional deciduous forest (0.5 acres), and pasture (0.5 acres). The Company anticipates that limited early successional tree clearing, totaling approximately 0.5 acre, will be required for new ROW.

No residences are located within 100 feet of the Project area. No cemeteries, churches, schools, or other community facilities are located within 1,000 feet of the Project area.

B(10)(b) Agricultural Land Information

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

The Project area consists of approximately 1.8 acres of new field habitat and approximately 0.5 acre of pasture land. As verified by the Vinton County Auditor’s Office on October 31, 2023, there are no parcels within the Project area that are enrolled in the Agricultural District Land program.

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.

Phase I archaeological and history/architectural surveys were conducted by the Company’s consultant for the Project in May and August of 2023. No sites listed on, or eligible for listing on, the National Register of Historic Places were identified within the Project area or adjacent portions of the parcels surveyed for cultural resources. Correspondence from the State Historic Preservation Office (“SHPO”) was received on

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June 15, 2023 and is included in Appendix C. The SHPO stated that they agree the Project will have no effect on historic properties and no further coordination is necessary.

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.

Best management practices (BMPs) will be implemented and maintained to minimize erosion and control sediment to protect surface water quality during storm events. A project-specific Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the Project and a Notice of Intent (NOI) will be filed with the Ohio Environmental Protection Agency (“OEPA”) for authorization of construction storm water discharges under General Permit OHC000006.

There are no streams or open waters located within the Project area. One palustrine emergent wetland (Wetland 2 [0.2 acre]) was identified within the Project area (see Ecological Survey Report provided in Appendix D). Two transmission line structures are proposed to be installed within the palustrine emergent wetland (Wetland 2) and additional portions of the palustrine emergent wetland will be temporarily impacted by timber mat workspaces and/or timber mat access roads during construction (see Figures 2 and 3 in Appendix D). The Project is expected to require a Clean Water Act Section 404 Permit authorization (under Nationwide Permit 57) from the U.S. Army Corps of Engineers (“USACE”). If more than 0.1 acre of Wetland 2 will be temporarily impacted, a Pre-construction Notice will be submitted to the USACE and will be coordinated directly with the OPSB once the Nationwide Permit verification process is complete.

The Project is not crossed by Federal Emergency Management Agency (“FEMA”) 100-year floodplains or floodways. Therefore, no floodplain permitting is required for the Project.

There are no other known local, state, or federal permitting requirements that must be met prior to commencement of the 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 U.S. Fish and Wildlife Service (“USFWS”) Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The October 12, 2022 response letter from the USFWS (Appendix C) identified the Indiana bat and northern long-eared bat as potentially

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occurring within the Project area. The USFWS recommends that if no caves or abandoned mines are present and trees ≥ 3 inches cannot be avoided, trees should be removed between October 1 and March 31 to avoid adverse effects to Indiana bats and northern long-eared bats during the brood-rearing months. Tree clearing anticipated for the Project will be approximately 0.5 acre and is planned to take place between October 1 and March 31. Therefore, no impacts to the Indiana bat, northern long-eared bat, or tricolored bat are anticipated.

Additionally, due to the Project type, size, and location, the USFWS does not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat.

An environmental review request letter was submitted to the Ohio Department of Natural Resources (“ODNR”) Office of Real Estate and a response letter was received on October 7, 2022 (Appendix C). According to the ODNR, the Indiana bat (state-listed endangered), little brown bat (*Myotis lucifugus*; state-listed endangered), northern long-eared bat (state-listed endangered), and tricolored bat (*Perimyotis subflavus*; state-listed endangered) occur statewide in Ohio. These species also roost in trees during the summer months and the little brown bat and tricolored bat also roost in buildings. A limited amount of potentially suitable summer roosting and foraging habitat for these species (early successional deciduous forest) was identified within the Project area.

The ODNR also recommended 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. If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the Project area, the ODNR requested that this information be sent to them for project recommendations. As seen on Figure 4 in the Ecological Survey Report (Appendix D), one abandoned underground mine is mapped as being located within 0.25 miles of the Project area. Additional coordination regarding potential hibernacula was sent to the ODNR on September 25, 2022. A response was received on November 30, 2023 concurring that the Project is not likely to impact hibernating bats that may be present in the underground mine (Appendix C). No potential hibernacula were identified within the Project area.

The Project is anticipated to require approximately 0.5 acre of early successional deciduous forest clearing. As stated above, tree clearing required for the Project is planned to take place between October 1 and March 31. Additionally, no buildings will be removed as part of the Project. Therefore, no impacts to the Indiana bat, northern long-eared bat, little brown bat, or tricolored bat are anticipated.

The response letter received from the ODNR Office of Real Estate also states that the Project is within the range of the following aquatic state-listed endangered and/or threatened species: little spectaclecase (*Villosa lienosa*; state-listed endangered), northern brook lamprey (*Ichthyomyzon fossor*; state-listed endangered), Ohio lamprey (*Ichthyomyzon bdellium*; state-listed endangered), spotted darter (*Etheostoma maculatum*; state-listed endangered), and eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*; state-listed endangered and federal species of concern). However, due to the Project location, and that there is no in-water work proposed in a perennial stream, the ODNR states that this Project is not likely to impact these species.

The ODNR also stated that the Project is within the range of the timber rattlesnake (*Crotalus horridus*; state-listed endangered and federal species of concern), midland mud salamander (*Pseudotriton montanus diastictus*); state-listed threatened), and eastern spadefoot toad (*Scaphiopus holbrookii*; state-listed

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endangered). However, the ODNR response letter states that due to the location, type of habitat within the Project area, and the type of work proposed, 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.

There are no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project area (Appendix C). Additionally, the ODNR Office of Real Estate response letter indicates that they are not aware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas that are located within 1,000 feet of the Project area or within a one-mile radius of the Project area (Appendix C).

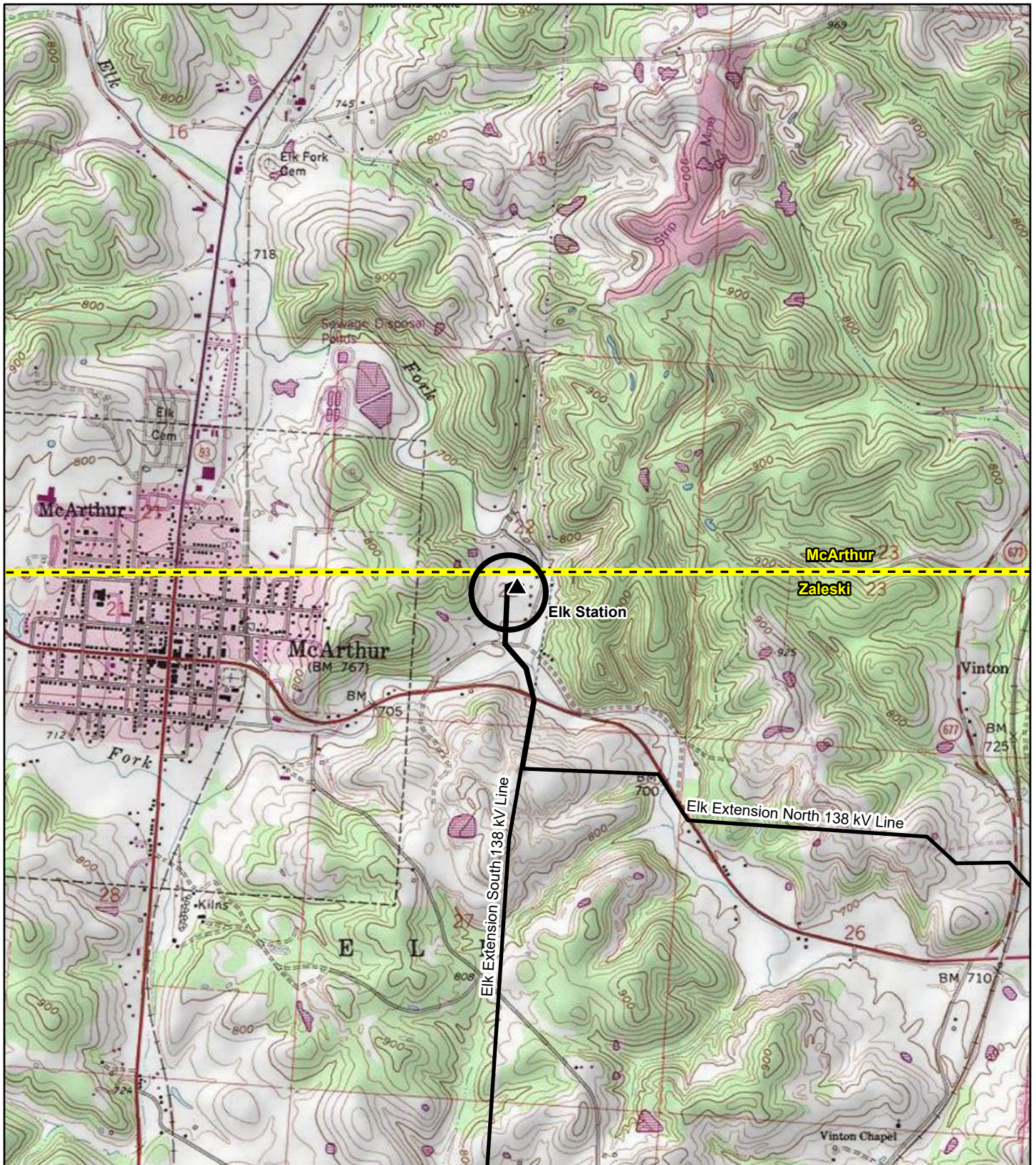
The FEMA Flood Insurance Rate Map with coverage of the Project area was consulted to identify any floodplains/flood hazard areas that have been mapped in the Project area (specifically, map number 3905530005B). Based on this map, no mapped FEMA floodplains or floodways are located within the Project area.

An ecological resources survey and wetland and waterbody delineation study was completed by the Company's consultant for the Project area in May and August of 2023. The Ecological Survey Report is included in Appendix D. No streams or open waters were observed in the Project area. One palustrine emergent wetland (Wetland 2 [0.2 acre]) was identified within the Project area. See Appendix D for more information regarding this wetland. Two structures are proposed to be installed within this wetland. Additionally, portions of this wetland will be temporarily impacted by timber mat access roads and/or by timber mat structure workspaces during construction. The portions of the wetland that are temporarily impacted will be restored upon the completion of construction activities. The remaining portions of this wetland within the Project area will be avoided.

B(10)(g) Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

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

APPENDIX A Project Figures



- ▲ Existing Distribution Substation
- Existing 138 kV Transmission Line
- == USGS Topographic Lines
- Project Area

Data Sources: AEP, USGS 7.5' Topographic Quadrangles (McArthur, Zaleski)

Coordinate System and Datum
NAD 1983 State Plane
Ohio North

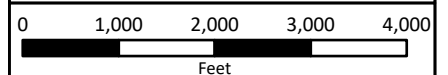
December 04, 2023

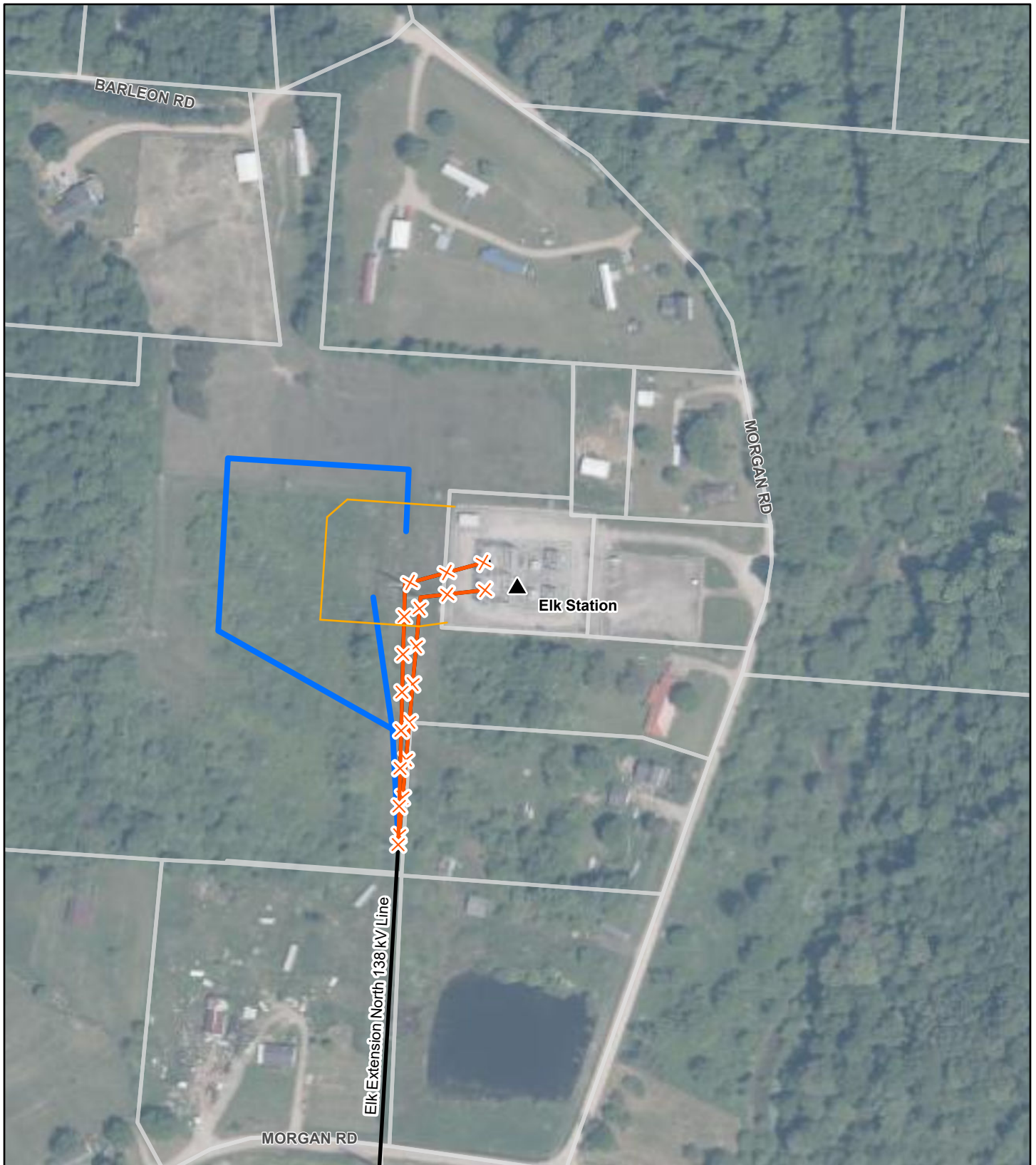


FIGURE 1
TOPOGRAPHIC OVERVIEW



Elk Extension North
138 kV Line Adjustment Project






▲ Existing Distribution Substation	— Existing 138 kV Transmission Line
— Proposed Centerline	— Proposed Non-Jurisdictional Substation Expansion Area
✕ Existing Transmission Line to be Removed	▭ Parcel Boundary

Data Sources: AEP, HIFLD, NAIP Imagery, 2021

Coordinate System and Datum
NAD 1983 State Plane Ohio North

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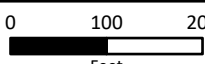



**FIGURE 2
AERIAL MAP**

AEP OHIO TRANSMISSION COMPANY
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**Elk Extension North
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0 100 200
Feet



APPENDIX B Long Term Forecast Report

1	LINE NAME AND NUMBER:	Elk - Lemaster 138kV (AC1-194 TP2019174)
2	POINTS OF ORIGIN AND TERMINATION	Elk - Lemaster INTERMEDIATE STATION - Bolins Mill & Mineral Switch
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	20.6 mi / 100 ft / 1 circuit (0.1 miles of line work)
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2023
6	CONSTRUCTION:	2023
7	CAPITAL INVESTMENT:	\$0.33M (reimbursable)
8	PLANNED SUBSTATION:	Elk (Rebuild)
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Connect and serve new generation customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Generation deliverability limitation
13	MISCELLANEOUS:	

1	LINE NAME AND NUMBER:	Corwin - Elk 138kV (AC1-194 TP2019174)
2	POINTS OF ORIGIN AND TERMINATION	Corwin - Elk INTERMEDIATE STATION - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	12.6 mi / 100 ft / 1 circuit (0.1 miles of line work)
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2023
6	CONSTRUCTION:	2023
7	CAPITAL INVESTMENT:	\$0.33M (reimbursable)
8	PLANNED SUBSTATION:	Elk (Rebuild)
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Connect and serve new generation customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Generation deliverability limitation
13	MISCELLANEOUS:	

1	LINE NAME AND NUMBER:	Elk - Vinton (IPP) 138kV (AC1-194 TP2019174)
2	POINTS OF ORIGIN AND TERMINATION	Elk - Vinton INTERMEDIATE STATION - N/A
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	0.1 mi / 100 ft / 1 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5	APPLICATION FOR CERTIFICATE:	2023
6	CONSTRUCTION:	2023
7	CAPITAL INVESTMENT:	\$0.37M (reimbursable)
8	PLANNED SUBSTATION:	Elk (Rebuild)
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Connect and serve new generation customer
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Generation deliverability limitation
13	MISCELLANEOUS:	

APPENDIX C Agency Correspondence

United States Department of the Interior



FISH AND WILDLIFE SERVICE

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



October 12, 2022

Project Code: 2022-0081461

Dear Mr. Godec:

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <https://ecos.fws.gov/ecp/species/9045>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

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

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

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

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

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

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,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield". The signature is fluid and cursive, with a large initial "P" and "A".

Patrice Ashfield
Field Office Supervisor

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



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

October 7, 2022

Daniel Godec
Stantec Consulting Services Inc.
11687 Lebanon Road
Cincinnati OH 45241

Re: 22-0925; Elk Extension North 138 kV Line Adjustment Project

Project: The proposed project involves adjusting the existing Elk Extension North 138 kV transmission line and extending it to the expanded Elk Station facility.

Location: The proposed project is located in Elk Township, Vinton 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 \geq 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

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 little spectaclecase (*Villosa lienosa*), a state endangered mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The project is within the range of the northern brook lamprey (*Ichthyomyzon fossor*), a state endangered fish, the Ohio lamprey (*Ichthyomyzon bdellium*), a state endangered fish, and the spotted darter (*Etheostoma maculatum*), a state endangered fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

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

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

The project is within the range of the midland mud salamander (*Pseudotriton montanus diastictus*), a state threatened species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

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

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

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

Shannon T Hemmerly

From: Eileen.Wyza@dnr.ohio.gov
Sent: Thursday, November 30, 2023 11:43 AM
To: Godec, Daniel
Cc: Shannon T Hemmerly
Subject: [EXTERNAL] RE: Additional Coordination Regarding Potential Bat Hibernacula - 22-0925 Elk Extension North 138 kV Line Adjustment Project

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Hi Dan,

Per review of the desktop survey provided for the Elk Extension North 138 kV Line Adjustment Project (22-0925), the Ohio Division of Wildlife concurs with your assessment that no caves, cliffs, or mine openings occur in the project area. Additionally, because the project does not involve blasting or impacting the bedrock, the project is not likely to impact hibernating bats that may be present in the underground mines.

Should any reported conditions change before or during construction, please contact me for additional guidance.

Thank you,



Eileen Wyza, Ph.D.

Wildlife Biologist
Ohio Division of Wildlife
Phone: 614-265-6764
Email: Eileen.Wyza@dnr.ohio.gov

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From: Godec, Daniel <Daniel.Godec@stantec.com>
Sent: Thursday, November 30, 2023 11:25 AM
To: Wyza, Eileen <Eileen.Wyza@dnr.ohio.gov>
Cc: Shannon T Hemmerly <sthemmerly@aep.com>

Subject: RE: Additional Coordination Regarding Potential Bat Hibernacula - 22-0925 Elk Extension North 138 kV Line Adjustment Project

Hello Eileen,

We can confirm that no blasting will be required for the transmission line installation. Let me know if you have any other questions.

Thanks again for your help,

Dan

From: Eileen.Wyza@dnr.ohio.gov <Eileen.Wyza@dnr.ohio.gov>

Sent: Thursday, November 30, 2023 8:53 AM

To: Godec, Daniel <Daniel.Godec@stantec.com>

Cc: Shannon T Hemmerly <sthemmerly@aep.com>

Subject: RE: Additional Coordination Regarding Potential Bat Hibernacula - 22-0925 Elk Extension North 138 kV Line Adjustment Project

Hi Dan,

Apologies for these emails getting buried! For this project, is any subsurface disturbance that will reach bedrock (i.e., blasting, etc.) expected during the transmission line installation?

Thanks!



Eileen Wyza, Ph.D.

Wildlife Biologist

Ohio Division of Wildlife

Phone: 614-265-6764

Email: Eileen.Wyza@dnr.ohio.gov

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Please consider the environment before printing this email.

From: Godec, Daniel <Daniel.Godec@stantec.com>

Sent: Wednesday, November 29, 2023 3:45 PM

To: Wyza, Eileen <Eileen.Wyza@dnr.ohio.gov>

Cc: Shannon T Hemmerly <sthemmerly@aep.com>

Subject: FW: Additional Coordination Regarding Potential Bat Hibernacula - 22-0925 Elk Extension North 138 kV Line Adjustment Project

Hello Eileen,

Just following up on this email from September as I never received a response from you.

Thanks in advance for your assistance!

Dan

From: Godec, Daniel
Sent: Monday, September 25, 2023 2:57 PM
To: Wyza, Eileen <Eileen.Wyza@dnr.ohio.gov>
Cc: Shannon T Hemmerly <sthemmerly@aep.com>
Subject: Additional Coordination Regarding Potential Bat Hibernacula - 22-0925 Elk Extension North 138 kV Line Adjustment Project

Hello Eileen,

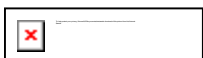
As requested in the attached Ohio Department of Natural Resources (ODNR) environmental review request response letter and on behalf of AEP Ohio Transmission Company, Inc. (AEP), Stantec completed a bat hibernacula desktop study for the Elk Extension North 138 kV Line Adjustment Project. As seen on the attached bat hibernacula desktop study map (Figure 4), no potential bat hibernacula are mapped as being present within this project area. Additionally, Stantec did not observe any potential bat hibernacula within the project area during our habitat assessment and wetland/waterbody delineation field surveys. As seen on the attached habitat assessment map (Figure 3), forested habitat is limited within the project area and consists of early successional deciduous forest (see attached Figure 3 habitat assessment map). However, as seen on Figure 4, an abandoned underground mine area is mapped as being present within 0.25 miles of the project area. No impacts to the abandoned underground mine area will be required for the project. The transmission lines associated with this project will be installed southwest and west of the existing Elk substation and approximately 0.65 acre of tree clearing will be required. AEP plans to conduct all required tree clearing for the project between October 1 and March 31.

We are requesting your concurrence that the planned October 1 to March 31 seasonal tree clearing is acceptable for this project and that no tree clearing buffers on the abandoned underground mine area are warranted.

Thanks in advance for your help!

Dan

Dan Godec
Senior Environmental Project Manager
Direct: 513 842-8203
Mobile: 513 265-9763
Daniel.Godec@stantec.com



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In reply, refer to
2023-VIN-58061

June 15, 2023

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

RE: Elk Extension North Shifts Project, Elk Township, Vinton County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received May 23, 2023 regarding the proposed Elk Extension North Shifts Project, Elk Township, Vinton 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 Cultural Resource Investigations for the 1.13 ha (2.8 ac) Elk Expansion North Shifts Project in Elk Township, Vinton County, Ohio* by Ryan J. Weller and Scott McIntosh (Weller & Associates, Inc. 2023).

A literature review, visual inspection, and shovel test unit excavations were completed as part of the investigations. One (1) previously identified archaeological site is located within the project area, Ohio Archaeological Inventory (OAI) 33VI0721. The site was not reidentified during survey and was previously determined not eligible for listing in the National Register of Historic Places (NRHP). Our office still agrees with this eligibility determination. No new archaeological sites were identified during survey. Our office agrees no additional archaeological investigation is needed.

A literature review and field survey were completed as part of the investigations. A total of five (5) extant resources fifty years of age or older, including one bridge, were identified within the Area of Potential Effects (APE). Weller recommends these resources are not eligible for listing in the National Register of Historic Places. Our office agrees with Weller's recommendations of eligibility.

Based on the information provided, we agree the project as proposed will have no effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorricks@ohiohistory.org or Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Krista Horrocks".

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1098395

APPENDIX D Ecological Survey Report



**Elk Extension North 138 kV Line
Adjustment**

Ecological Survey Report

Prepared for:

AEP Ohio Transmission Company, Inc.
8600 Smiths Mill Road
New Albany, OH 43054

Prepared by:

Stantec Consulting Services, Inc.
10200 Alliance Road, Suite 300
Blue Ash, OH 45242

August 30, 2023

Sign-off Sheet

This document entitled Ecological Survey Report, Elk Extension North 138 kV Line Adjustment Project was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of AEP Ohio Transmission Company, Inc. Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by Malin Cary
(signature)

Malea Casey

Reviewed by Aaron J. Kwolek
(signature)

Aaron Kwolek

Reviewed by Daniel J. Godec
(signature)

Dan Godec

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Introduction
August 30, 2023

1.0 INTRODUCTION

AEP Ohio Transmission Company, Inc. (AEP) is proposing construction activities associated with the Elk Extension North 138 kV Line Adjustment Project. AEP plans to expand the existing Elk substation (Elk Station) on an approximate 5-acre property to accommodate additional equipment, modify and relocate 3 to 4 transmission line structures to accommodate the reconfigured station, and install a new transmission line to connect to the Independent Power Producer (IPP) customer's transmission line. The Project area was surveyed for wetlands, waterbodies, open water features, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on May 11 and August 17, 2023. The approximate locations of features located up to 50 feet outside of the Project area were also recorded during the field surveys, where landowner access was permitted. However, no data forms were collected on features that did not extend into the Project area. The approximate locations of these features are shown on the Figure 2 maps in Appendix A as "approximate" wetlands, streams (waterways), open waters, and upland drainage features.

Methods
August 30, 2023

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) mapping, National Hydrography Dataset (NHD) mapping, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)* (USACE 2012). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's *Guidance on Ordinary High Water Mark Identification* (Regulatory Guidance Letter, No. 05-05) (USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (USACE 2002) and determined as potential Waters of the U.S. (WOTUS) in reference to the current guidance per interpretation of WOTUS that is consistent with the pre-2015 regulatory regime (40 CFR 230.3(s)) (USEPA 2022). Functional assessment of streams identified within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) *Headwater Habitat Evaluation Index (HHEI; OEPA 2020)* and/or *Qualitative Habitat Evaluation Index (QHEI; OEPA 2006)* data forms. The centerline of each waterway and/or the OHWM of each waterway was identified and surveyed using a handheld sub-meter accuracy global positioning system (GPS) unit and mapped with geographic information system (GIS) software. Additionally, the locations of ponds/open water features and upland drainage features (which lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

2.3 RARE SPECIES

Prior to conducting the field surveys, Stantec contacted the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) for information regarding rare, threatened, or endangered species and their habitats of concern within the vicinity of the Project area (Appendix B – Agency Correspondence). To assess potential impacts to rare, threatened, or endangered species, Stantec scientists conducted a pedestrian reconnaissance of the proposed Project area, collected information on existing habitats within the Project area, and assessed the potential for these habitats to be used by federally listed or state-listed species that have the potential to occur within Vinton County.

Results
August 30, 2023

3.0 RESULTS

3.1 TERRESTRIAL HABITAT

Stantec completed field surveys for threatened and endangered species habitats on May 11 and August 17, 2023. Figure 3 (Appendix A) shows the locations of vegetation communities/habitats and land cover types identified within the Project area and the locations of any identified rare, threatened, or endangered species habitat observed within the Project area during the time of the habitat assessment field surveys. Representative photographs of the vegetation communities/habitats and land cover types identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 3, Appendix A). Information regarding the vegetation communities/habitats/land cover types identified within the Project area is provided in Table 1.

Table 1. Vegetation Communities and Land Cover Types Found within the Elk Extension North 138 kV Line Adjustment Project Area, Vinton County, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Early Successional Deciduous Forest	Moderate Disturbance/Natural Community (dominated by native woody and herbaceous species and/or opportunistic invaders). Common plant species included multiflora rose (<i>Rosa multiflora</i>), Autumn olive (<i>Eleagnus umbellata</i>), Amur honeysuckle (<i>Lonicera maackii</i>), black cherry (<i>Prunus serotina</i>), and Chinese privet (<i>Ligustrum sinense</i>).	No	2.77
Existing Gravel	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	1.49
Maintained Lawn	Extreme Disturbance/Ruderal Community (dominated by planted non-native species, opportunistic invaders, and/or native highly tolerant taxa). Common plant species included Kentucky bluegrass (<i>Poa pratensis</i>), common dandelion (<i>Taraxacum officinale</i>), white clover (<i>Trifolium repens</i>), and narrowleaf plantain (<i>Plantago lanceolata</i>).	No	1.55
New Field	Extreme Disturbance/Ruderal Community (dominated by planted non-native species, opportunistic invaders, and/or native highly tolerant taxa). Common plant species included	No	6.54

ECOLOGICAL SURVEY REPORT, ELK EXTENSION NORTH 138 KV LINE ADJUSTMENT PROJECT

Results
August 30, 2023

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
	Kentucky bluegrass, azure bluet (<i>Houstonia caerulea</i>), blue-eyed grass (<i>Sisyrinchium angustifolium</i>), narrowleaf plantain, Canada goldenrod (<i>Solidago canadensis</i>), Indian hemp (<i>Apocynum cannabinum</i>), Fuller's teasel (<i>Dipsacus fullonum</i>), and common cinquefoil (<i>Potentilla simplex</i>).		
Pasture	Extreme Disturbance/Ruderal Community (dominated by planted non-native species, opportunistic invaders, and/or native highly tolerant taxa). Common plant species included Kentucky bluegrass, common dandelion, white clover, and narrowleaf plantain.	No	2.11
Existing Paved Roadway	Extreme Disturbance/existing paved road or other paved area (little to no vegetation is present in these habitats).	No	0.15
Palustrine Emergent Wetland	Moderate Disturbance/Natural Community (dominated by native herbaceous species). Common plant species included broadleaf cattail (<i>Typha latifolia</i>), sensitive fern (<i>Onoclea sensibilis</i>), swamp agrimony (<i>Agrimonia parviflora</i>), reed canary grass (<i>Phalaris arundinacea</i>), and creeping jenny (<i>Lysimachia nummularia</i>).	No	1.34
TOTAL			15.95

3.2 WETLANDS

Stantec completed field surveys for wetlands within the Project area on May 11 and August 17, 2023. As a result of the field surveys, Stantec identified four wetlands within the Project area. Figure 2 (Appendix A) shows the locations of the wetlands identified by Stantec within the Project area. Representative photographs of the wetlands identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed wetland determination data forms and ORAM data forms are included in Appendix D. Information regarding the Cowardin classification and ORAM categories of wetlands identified within the Project area is provided in Table 2. A summary of the disposition of NWI-mapped wetlands within the Project area is provided in Table 3.

ECOLOGICAL SURVEY REPORT, ELK EXTENSION NORTH 138 KV LINE ADJUSTMENT PROJECT

Results
August 30, 2023

Table 2. Summary of Wetland Resources Found within the Elk Extension North 138 kV Line Adjustment Project Area, Vinton County, Ohio

Wetland ID	Location		Isolated? ¹	Habitat Type ²	Delineated Area (acre)	ORAM		Nearest Proposed Structure Number	Existing Structure Number in Wetland	Proposed Structure Number in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	39.249794	-82.461084	No	PEM ³	0.01	11.5	1	TBD ⁴	N/A	TBD ⁴	TBD ⁴	TBD ⁴	TBD ⁴
Wetland 2	39.248455	-82.461693	No	PEM ³	1.13	25	1	TBD ⁴	N/A	TBD ⁴	TBD ⁴	TBD ⁴	TBD ⁴
Wetland 3	39.247235	-82.461737	No	PEM ³	0.02	16	1	TBD ⁴	N/A	TBD ⁴	TBD ⁴	TBD ⁴	TBD ⁴
Wetland 4	39.246985	-82.461593	No	PEM ³	0.21	29	1	TBD ⁴	N/A	TBD ⁴	TBD ⁴	TBD ⁴	TBD ⁴
TOTAL					1.37	TOTAL					TBD ⁴	TBD ⁴	

¹Preliminary jurisdictional determinations were made in concurrence with the U.S. Supreme Court decision following Rapanos v United States, prior to the establishment of the Navigable Waters Protection Rule.
²Wetland classification is based on Cowardin et al. (1979).
³PEM = Palustrine Emergent Wetland
⁴TBD = To be determined. Impact information and/or structure installation method is unknown at this time.

Table 3. Summary of NWI Disposition within the Elk Extension North 138 kV Line Adjustment Project Area, Vinton County, Ohio

NWI Code	NWI Description	Figure 2 Page Number	Related Field Inventoried Resource(s)	Comments
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	1	Open Water 1	Open Water 1 was delineated within the mapped NWI feature. Representative photographs are available in Appendix C.
PEM1C	Palustrine, emergent, persistent, seasonally flooded	1	Wetland 4	Wetland 4 was delineated within the mapped NWI feature. The wetland determination forms completed for this for this wetland are provided in Appendix D. Representative photographs are available in Appendix C.

Results
August 30, 2023

3.3 STREAMS

Stantec completed field surveys for streams (waterways) within the Project area on May 11 and August 17, 2023. No streams were identified within the Project area.

3.4 OPEN WATERS

Stantec completed field surveys for open waters within the Project area on May 11 and August 17, 2023. One open water (Open Water 1) totaling 0.29 acres was identified within the Project area.

Results
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3.5 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 4. Summary of Potential Federally Listed and Ohio State-Listed Species within the Elk Extension North 138 kV Line Adjustment Project Area, Vinton County, Ohio

Common Name/ Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
Amphibians						
Midland Mud Salamander/ <i>Pseudotriton montanus</i>	T	N/A	Muddy springs, slow floodplain streams, and swamps along slow streams; backwater ponds and marshes created by beaver activity (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR - The Project is within the range of the mud salamander. Due to the location, the type of habitat within the Project area, and the type of work proposed, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area. In addition, due to the location and type of habitat within the Project area, this Project is not likely to impact this species.
Eastern Hellbender/ <i>Cryptobranchus alleganiensis alleganiensis</i>	E	SOC	In Ohio, this species is found mostly in the unglaciated portions of the state and prefers large, swift flowing streams where they hide under larger rocks (ODNR 2018).	No suitable habitat was observed within the Project area.	ODNR - The Project is within the range of the eastern hellbender. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed in the Project area. Therefore, no impacts to this species are anticipated.
Eastern Spadefoot/ <i>Scaphiopus holbrookii</i>	E	N/A	Eastern spadefoots occur in areas of sandy, gravelly, or soft, light soils in wooded or unwooded terrain. On land, they range up to at least several hundred meters from breeding sites. When inactive, they remain burrowed in the ground. Eggs and larvae develop in temporary pools formed by heavy rains. Breeding sites include temporary pools and areas flooded by heavy rains (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR - The Project is within the range of the eastern spadefoot. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area. Therefore, no impacts to this species are anticipated.
Reptiles						
Timber Rattlesnake/ <i>Crotalus horridus horridus</i>	E	SOC	In the central Midwest, optimum habitat is a high, dry ridge with oak-hickory forest interspersed with open areas. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fissure in a ledge, a crevice between ledge and ground, and fallen rock associated or unassociated with cliffs (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR - The Project is within the range of the timber rattlesnake. Due to the location, the type of habitat within the Project area, and the type of work proposed, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area. Therefore, no impacts to this species are anticipated.
Invertebrates						
Little Spectaclecase/ <i>Villosa lienosa</i>	E	N/A	This species typically inhabits small creeks to medium-sized rivers, usually along the banks in slower currents (NatureServe 2023).	No potentially suitable habitat (perennial streams or rivers) was observed within the Project area.	ODNR - The Project is within the range of the little spectaclecase. Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species. USFWS - No comments received.	No potentially suitable habitat (perennial streams or rivers) was observed within the Project area. Therefore, no impacts to this species are anticipated.

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Common Name/ Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
Fish						
Spotted Darter/ <i>Etheostoma maculatum</i>	E	N/A	This species is found in habitats that include large rubble and boulder areas, adjacent to or in swift deep riffles, in small to medium freshwater rivers. Adults apparently spend the winter in areas somewhat deeper and with slower current. Eggs are laid on underside of stones in quiet water areas near the heads of riffles in water 15-60 cm deep (NatureServe 2023).	No potentially suitable habitat (perennial streams or rivers) was observed within the Project area.	ODNR - The Project is within the range of the spotted darter. Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species. USFWS - No comments received.	No potentially suitable habitat for this species was observed within the Project area. Therefore, no impacts to this species are anticipated.
Northern Brook Lamprey/ <i>Ichthyomyzon fossor</i>	E	N/A	Adult northern brook lampreys are found in clear brooks with fast flowing water and sand or gravel bottoms. Juveniles are found in slow moving water buried in soft substrate in medium to large streams (ODNR 2018).	No potentially suitable habitat (perennial streams) was observed within the Project area.	ODNR - The Project is within the range of the northern brook lamprey. Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species. USFWS - No comments received.	No potentially suitable habitat was observed within the Project area. Therefore, no impacts to this species are anticipated.
Ohio Lamprey/ <i>Ichthyomyzon bdellium</i>	E	N/A	Typically, adults inhabit medium to larger streams, while larvae burrow near debris in muddy bottoms of quiet pools of creeks and small streams. Eggs are laid in a nest in gravel-bottomed riffles in small gravelly tributaries (NatureServe 2022).	No potentially suitable habitat (perennial streams) was observed within the Project area.	ODNR - The Project is within the range of the Ohio lamprey. Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species. USFWS - No comments received.	No potentially suitable habitat for this species was observed within the Project area.
Mammals						
Indiana Bat/ <i>Myotis sodalis</i>	E	E	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2023b). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Potentially suitable foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix B). No potentially suitable hibernacula were observed within the Project area.	ODNR - The entire state of Ohio is within the range of the Indiana bat. If trees are present within the Project area and trees must be cut the ODNR 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 diameter at breast height (dbh) ≥ 20 if possible. If trees are present within the Project area, and trees must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to the ODNR for Project recommendations.	Potentially suitable summer foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec and no potentially suitable hibernacula were mapped as being present within the Project area. However, an abandoned underground mine area is mapped as being present within 0.25 miles of the Project area (Figure 4, Appendix A). No potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec. Avoidance Dates: April 1 – September 30

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Common Name/ Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
					<p>USFWS - The Indiana bat occurs throughout the State of Ohio. Should the proposed Project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats. If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year.</p>	
Northern Long-eared Bat/ <i>Myotis septentrionalis</i>	E	T	<p>The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2020). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).</p>	<p>Potentially suitable foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix B). No potentially suitable hibernacula were observed within the Project area.</p>	<p>ODNR - The entire state of Ohio is within the range of the northern long-eared bat. If trees are present within the Project area and trees must be cut the ODNR 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 ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to the ODNR for Project recommendations.</p> <p>USFWS - The northern long-eared bat occurs throughout the State of Ohio.</p>	<p>Potentially suitable summer foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec and no potentially suitable hibernacula were mapped as being present within the Project area. However, an abandoned underground mine area is mapped as being present within 0.25 miles of the Project area (Figure 4, Appendix A). No potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec.</p> <p>Avoidance Dates: April 1 – September 30</p>

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Results
August 30, 2023

Common Name/ Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
					Should the proposed Project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to northern long-eared bats.	
Little Brown Bat/ <i>Myotis lucifugus</i>	E	N/A	This bat uses a wide range of habitats and man-made structures for roosting, including buildings and attics. Less frequently, they use hollows of trees. Winter hibernation sites typically consist of caves, tunnels, abandoned mines. Foraging habitat for this species generally occurs over water, along the edges of lakes and streams or in woodlands near waterbodies (NatureServe 2023).	Potentially suitable foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix B). No potentially suitable hibernacula were observed within the Project area.	ODNR - The entire state of Ohio is within the range of the little brown bat. If trees are present within the Project area and trees must be cut the ODNR 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 ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to the ODNR for Project recommendations. USFWS – No comments received.	Potentially suitable summer foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec and no potentially suitable hibernacula were mapped as being present within the Project area. However, an abandoned underground mine area is mapped as being present within 0.25 miles of the Project area (Figure 4, Appendix A). No potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec. Avoidance Dates: April 1 – September 30
Tricolored Bat/ <i>Perimyotis subflavus</i>	E	PE	This species is found throughout Ohio and is associated with forested landscapes, foraging near trees and along waterways. Maternity and summer roosts usually occur in dead or live tree foliage, or in the south, in clumps of Spanish moss. Maternity colonies may also use tree cavities or man-made structures, such as buildings or bridges. Caves, mines, and rock crevices may be used as night roosts between foraging (NatureServe 2023).	Potentially suitable foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix B). No potentially suitable hibernacula were	ODNR - The entire state of Ohio is within the range of the tricolored bat. If trees are present within the Project area and trees must be cut the ODNR 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	Potentially suitable summer foraging and roosting habitat was observed within early successional deciduous forest habitats within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec and no potentially suitable hibernacula were

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Common Name/ Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
				observed within the Project area.	<p>Project area, and trees must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to Erin Hazelton for project recommendations.</p> <p>USFWS – No comments received</p>	<p>mapped as being present within the Project area. However, an abandoned underground mine area is mapped as being present within 0.25 miles of the Project area (Figure 4, Appendix A). No potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec.</p> <p>Avoidance Dates: April 1 – September 30</p>

¹E=Endangered; T=Threatened; PE=Proposed Endangered; SOC=Species of Concern; N/A= Not Applicable

²According to ODNR, State Listed Wildlife and Plant Species by County (ODNR 2023a).

³According to Information for Planning and Consultation website (USFWS 2023a).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec conducted a wetland and waterbody delineation and a preliminary habitat assessment for threatened and endangered species within the Project area on May 11 and August 17, 2023. Four palustrine emergent wetlands (Wetland 1, Wetland 2, Wetland 3, and Wetland 4) totaling approximately 1.35 acres were identified within the Project area. One open water (Open Water 1) totaling approximately 0.29 acres was identified within the Project area. See Table 2 for more information regarding wetlands identified within the Project area, respectively. Data forms for the identified wetlands are provided in Appendix D and representative photographs are provided in Appendix C.

The information provided by Stantec regarding wetland boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the field work. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment.

An ODNR Ohio Natural Heritage Program data request and environmental review request letter was sent to the ODNR Office of Real Estate on September 14, 2022. The ODNR Office of Real Estate responded on October 7, 2022. Additionally, a technical assistance request letter was submitted to the USFWS on September 14, 2022. The USFWS response was received on October 12, 2022. Agency correspondence can be found in Appendix B.

Potentially suitable summer foraging and roosting habitat (early successional deciduous forest) for the Indiana bat (state and federally listed endangered), northern long eared bat (state-listed endangered, federally listed endangered), tricolored bat (state-listed endangered, proposed federally endangered), and little brown bat (state-listed endangered) was observed within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed with agency recommendations to avoid impacts to these bat species.

Stantec completed a desktop bat hibernacula habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2023b) and locations of known or suspected karst geology (ODNR 2023c). No potentially suitable hibernacula were mapped as being present within the Project area. However, an abandoned underground mine area is mapped as being present within 0.25 miles of the Project area (Figure 4, Appendix A). No underground mine openings, caves, or any other potentially suitable bat hibernacula were observed within the Project area during the field surveys completed by Stantec. Therefore, no impacts to potential bat hibernacula are anticipated.

Other than potentially suitable foraging and roosting habitat for the Indiana bat, northern long-eared bat, little brown bat, and tricolored bat, no potentially suitable habitat for any other state-

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Conclusions and Recommendations
August 30, 2023

listed species, federally listed species, or federal species of concern was observed within the Project area.

References
August 30, 2023

5.0 REFERENCES

- Brack, Virgil Jr., Dale W. Sparks, John O. Whitaker Jr., Brianne L. Walters, and Angela Boyer. 2010. Bats of Ohio. Indiana State University Center for North American Bat Research and Conservation.
- Cowardin, L.M., V. Carter V., F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.
- Mack, J.J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus, Ohio.
- NatureServe. 2023. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.0. NatureServe, Arlington, VA. U.S.A. Available <http://explorer.natureserve.org>. Accessed March 2023.
- Ohio Department of Natural Resources (ODNR) Division of Wildlife. 2018. Species Guide Index. Available at <http://wildlife.ohiodnr.gov/species-and-habitats/species-guide-index/>. Accessed January 2020.
- ODNR Division of Wildlife. 2023a. State Listed Wildlife and Plant Species by County. Available at <https://ohiodnr.gov/discover-and-learn/safety-conservation/about-odnr/wildlife/documents-publications/wildlife-plants-county>. Accessed July 2023.
- ODNR Division of Mineral Resources and Division of Geological Survey. 2023b. Mines of Ohio. Available online at ODNR Mines of Ohio Viewer (ohiodnr.gov). Accessed July 2023.
- ODNR Division of Geological Survey. 2023c. Karst Interactive Map. Available online at Karst Interactive Map Viewer (ohiodnr.gov). Accessed March 2023.
- Ohio Environmental Protection Agency (OEPA). 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI).
- OEPA. 2020. Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. 130 pp.
- U.S. Army Corps of Engineers (USACE), Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterway Experiment Station, Vicksburg, Mississippi.

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References

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- USACE. 2002. Issuance of Nationwide Permits; Notice, 67 Fed. Reg. 10. January 15, 2002. Federal Register: The Daily Journal of the United States. Available at <https://www.gpo.gov/fdsys/pkg/FR-2002-01-15/pdf/02-539.pdf>.
- USACE. 2005. *Guidance on Ordinary High Water Mark Identification* (Regulatory Guidance Letter, No. 05-05). Available online at <http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl05-05.pdf>. Accessed January 17, 2022.
- USACE. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0*, ed. J.F. Berkowitz, J.S. Wakeley, R.W. Lichvar, C.V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Environmental Protection Agency (USEPA). 2022. 40 Code of Federal Regulations 230.3(s). Available at <https://www.govinfo.gov/content/pkg/CFR-2005-title40-vol24/pdf/CFR-2005-title40-vol24-sec230-3.pdf>. Accessed March 2023.
- USFWS. 2007. Indiana bat (*Myotis sodalis*) draft recovery plan: First revision. U.S. Fish and Wildlife Service, Ft. Snelling, Minnesota. 258 pp.
- USFWS. 2020. Northern Long-eared Bat (*Myotis septentrionalis*). Available online at <https://www.fws.gov/midwest/Endangered/mammals/nleb/nlebFactSheet.html>. Accessed January 17, 2022.
- USFWS. 2023a. Information for Planning and Consultation website. Available at <https://ipac.ecosphere.fws.gov/>. Accessed March 2023.
- USFWS. 2023b. 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines, March 2023. Available at https://www.fws.gov/sites/default/files/documents/USFWS_Range-wide_IBat_%26_NLEB_Survey_Guidelines_2022.03.29.pdf. Accessed March 2023.

Appendix A FIGURES

A.1 FIGURE 1 – PROJECT LOCATION MAP

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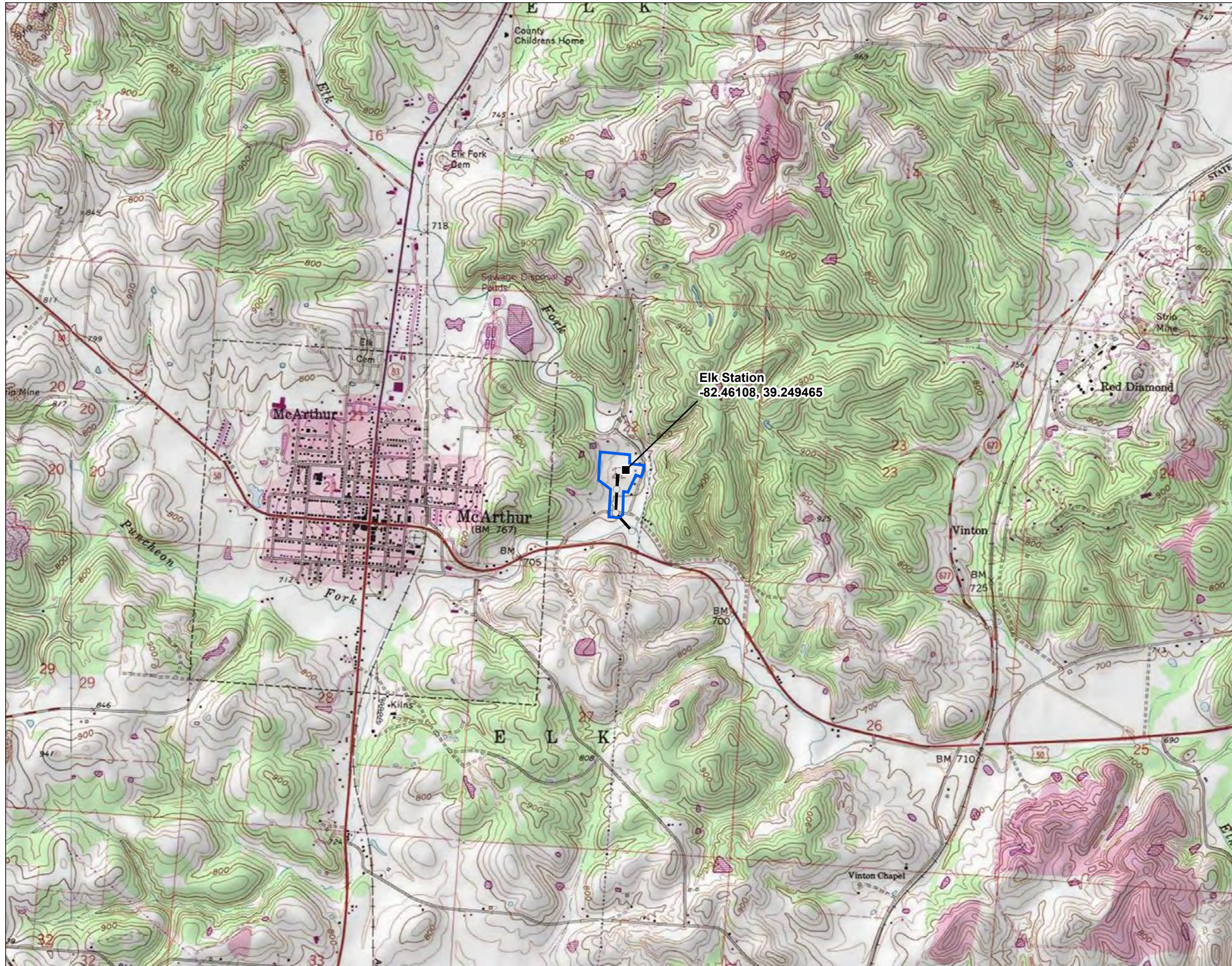


Figure No.

1

Title

Project Location Map

Client/Project: AEP Ohio Transmission Company, Inc. Elk Extension North 138 kV Line Adjustment 193709138

Project Location: Vinton County, Ohio Prepared by JDS on 2022-08-26 TR by SP on 2022-08-29 IR by DJG on 2022-09-06



0 1,000 2,000 Feet
(At original document size of 11x17)
1:24,000

Legend

- Existing Substation
- Existing Structure
- Existing 138 kV Transmission Line
- Project Area



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles - McArthur, OH (1985), Zaleski, OH (1985)



A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP

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 Revised: 2023-08-30 By: dpoinsette

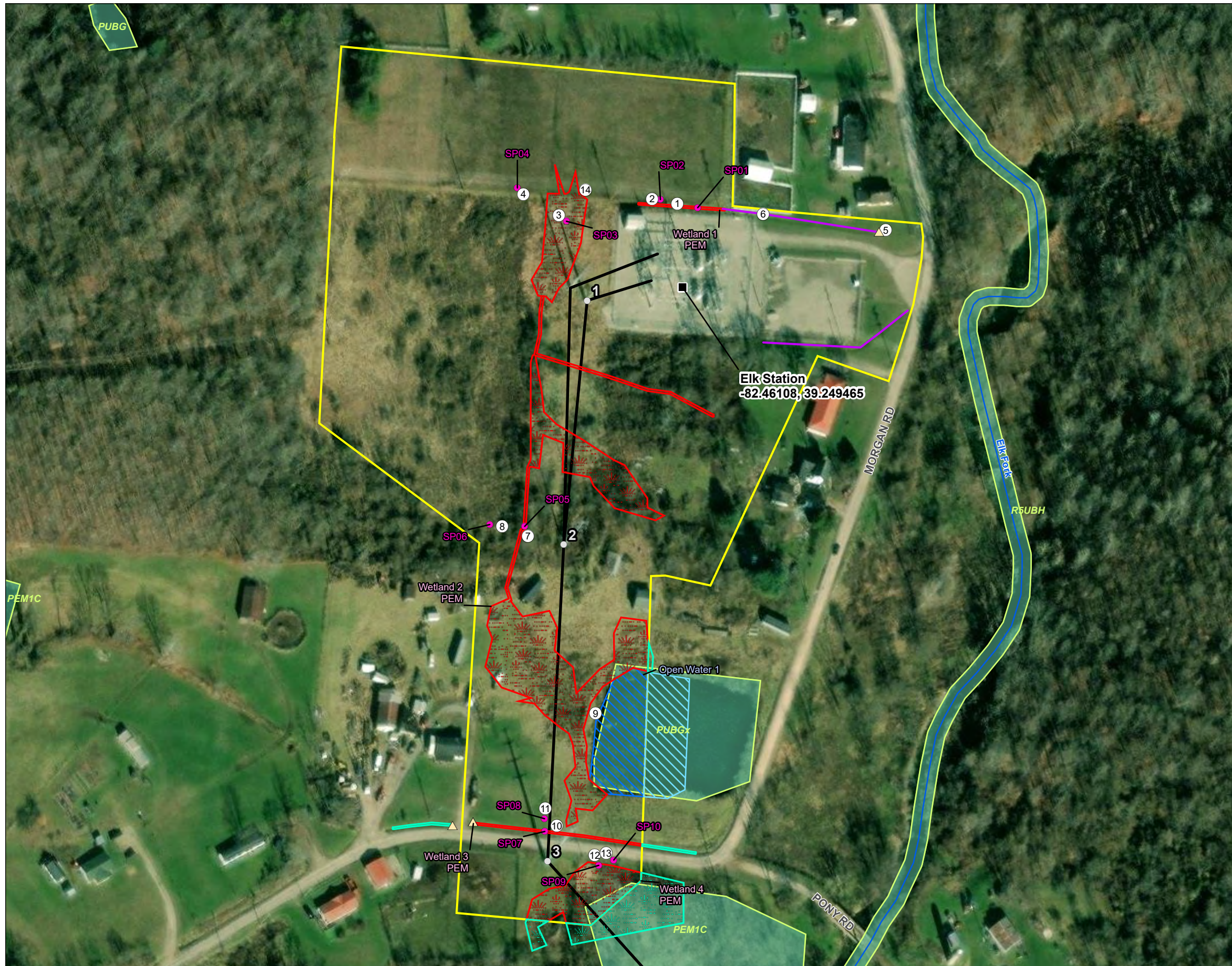
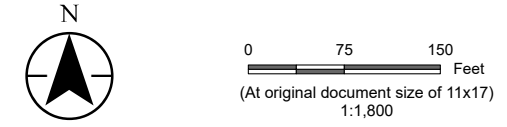


Figure No. **2**
 Title **Wetland and Waterbody Delineation Map**

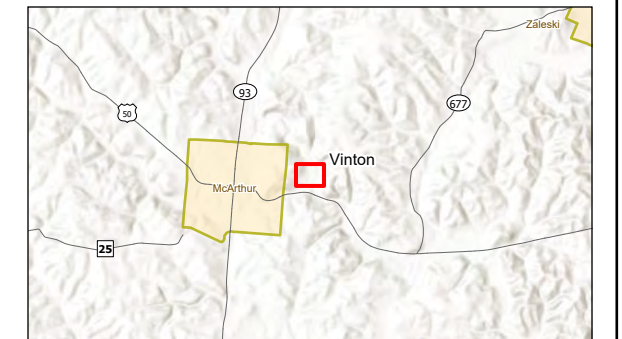
Client/Project 193709138
 AEP Ohio Transmission Company, Inc.
 Elk Extension North 138 kV Line Adjustment

Project Location Vinton County, Ohio Prepared by JDS on 2022-08-26
 TR by SP on 2022-08-29
 IR by DJG on 2022-09-06



- Legend**
- Existing Substation
 - Existing Structure
 - Existing 138 kV Transmission Line
 - Project Area
 - Photo Location
 - ▲ Culvert
 - Wetland Determination Sample Point
 - Upland Drainage Feature
 - ▨ Field Delineated Open Water
 - ▨ Approximate Open Water
 - ▨ Field Delineated Emergent Wetland
 - ▨ Approximate Wetland
 - ▨ National Wetlands Inventory Feature
 - National Hydrography Dataset**
 - Perennial Stream
 - Intermittent Stream*
 - Waterbody*
 - FEMA Flood Hazard Area****
 - ▨ 100-year Floodplain
 - ▨ Floodway

*No features within data frame
 **No FEMA data available for the county



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: Esri World Imagery



A.3 FIGURE 3 – HABITAT ASSESSMENT MAP

\\corp.sds\data\Virtual_Workspace\workgroup\1937\Active\193709138_193709144_ElkStationExpansion\03_data\gis_cad\gis\mxd\eco_figures\193709138_ElkExtensionNorthLine_193709138_ElkExtensionNorthLine_Eco.aprx Revised: 2023-08-30 By: dpoinsett



Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment

193709138

Project Location
Vinton County, Ohio

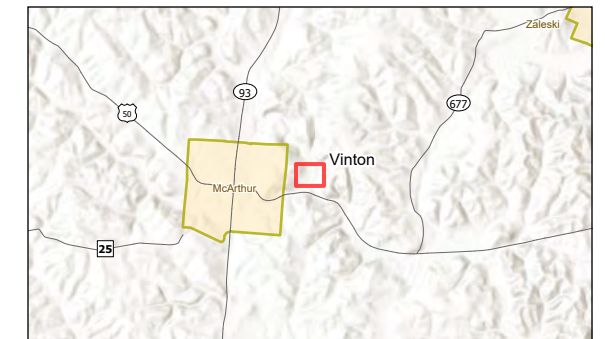
Prepared by JDS on 2022-08-26
TR by SP on 2022-08-29
IR by DJG on 2022-09-06



0 75 150 Feet
(At original document size of 11x17)
1:1,800

Legend

- Existing Substation
 - Existing Structure
 - ⚡ Existing 138 kV Transmission Line
 - Project Area
 - Photo Location
 - ▲ Culvert
 - ⤵ Upland Drainage Feature
 - ▒ Field Delineated Open Water
 - ▒ Approximate Open Water
 - ▒ Field Delineated Emergent Wetland
 - ▒ Approximate Wetland
- Habitat Area
- ▒ Early Successional Deciduous Forest
 - ▒ Gravel
 - ▒ Maintained Lawn
 - ▒ New Field
 - ▒ Pasture
 - ▒ Paved Road



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS
3. Orthophotography: Esri World Imagery



A.4 FIGURE 4 – BAT HIBERNACULA DESKTOP STUDY MAP

\\corp.adis.data\Virtual_Workspace\workgroup\1937\Active\193709138_193709144_ElkExtensionNorthLine\193709138_ElkExtensionNorthLine_Eco.aprx Revised: 2023-08-30 By:

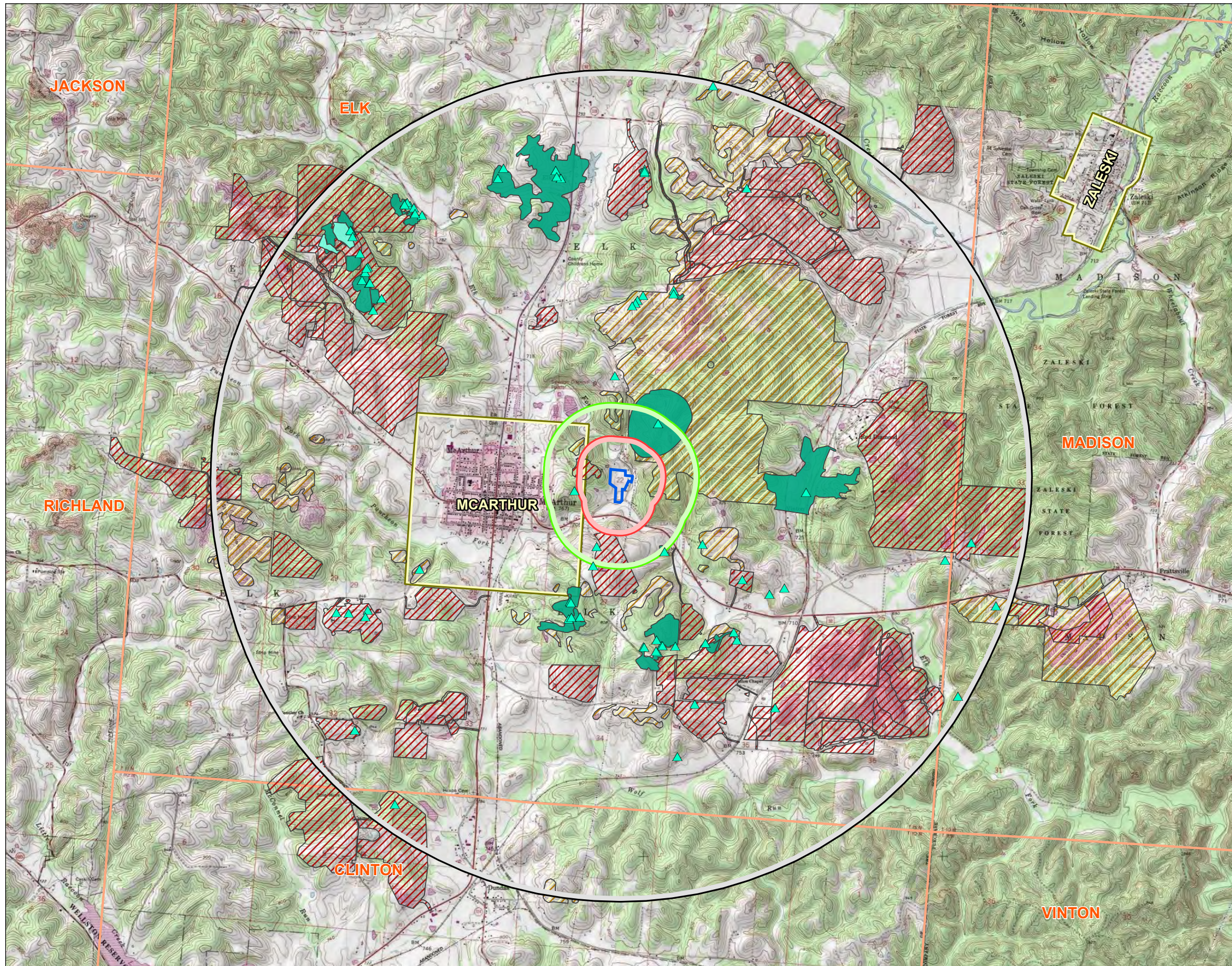
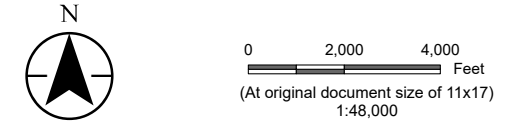


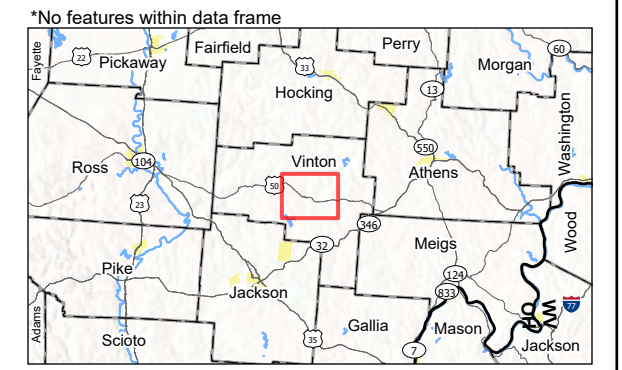
Figure No. **4**
Title **Bat Hibernacula Desktop Study Map**

Client/Project **AEP Ohio Transmission Company, Inc.** 193709138
Elk Extension North 138 kV Line Adjustment

Project Location **Vinton County, Ohio** Prepared by DP on 2023-05-19
TR by DG on 2023-05-19
IR by KLB on 2023-05-19



- Legend**
- Project Area
 - 0.25-Mile Project Area Buffer
 - 0.5-Mile Project Area Buffer
 - 3-Mile Project Area Buffer
 - Karst Feature*
 - Area of Karst Geology*
 - Abandoned Underground Mine
 - Inactive Mine*
 - Active Surface Mine*
 - Abandoned Surface Mine Area
 - Abandoned Underground Mine Area
 - Inactive Surface Mine Area
 - Active Surface Mine Area
 - Surface Mine Area (Unknown Status)*



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, ODNR, NADS
3. Background: USGS 7.5' Topographic Quadrangles - McArthur, OH (1985), Zaleski, OH (1985)



Appendix B AGENCY CORRESPONDENCE



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

October 7, 2022

Daniel Godec
Stantec Consulting Services Inc.
11687 Lebanon Road
Cincinnati OH 45241

Re: 22-0925; Elk Extension North 138 kV Line Adjustment Project

Project: The proposed project involves adjusting the existing Elk Extension North 138 kV transmission line and extending it to the expanded Elk Station facility.

Location: The proposed project is located in Elk Township, Vinton 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 little spectaclecase (*Villosa lienosa*), a state endangered mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The project is within the range of the northern brook lamprey (*Ichthyomyzon fossor*), a state endangered fish, the Ohio lamprey (*Ichthyomyzon bdellium*), a state endangered fish, and the spotted darter (*Etheostoma maculatum*), a state endangered fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

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

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

The project is within the range of the midland mud salamander (*Pseudotriton montanus diastictus*), a state threatened species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

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

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

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

United States Department of the Interior



FISH AND WILDLIFE SERVICE

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



October 12, 2022

Project Code: 2022-0081461

Dear Mr. Godec:

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <https://ecos.fws.gov/ecp/species/9045>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

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

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

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

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

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

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,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield". The signature is fluid and cursive, with a large initial "P" and "A".

Patrice Ashfield
Field Office Supervisor

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

Appendix C REPRESENTATIVE PHOTOGRAPHS

C.1 WETLAND AND WATERBODY PHOTOGRAPHS

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 1. View of Wetland 1. Photograph taken facing north.



Photograph Location 1. View of Wetland 1. Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 1. View of Wetland 1. Photograph taken facing south.



Photograph Location 1. View of Wetland 1. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 1. Representative view of soil profile at wetland determination sample point SP01.



Photograph Location 2. View of upland (new field habitat) at wetland determination sample point SP02. Photo taken facing east.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 2. View of upland (new field habitat) at wetland determination sample point SP02. Photo taken facing west.



Photograph Location 3. View of Wetland 2. Photo taken facing north.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 3. View of Wetland 2. Photo taken facing east.



Photograph Location 3. View of Wetland 2. Photograph taken facing south.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 3. View of Wetland 2. Photograph taken facing west.



Photograph Location 3. Representative view of soil profile at wetland determination sample point SP03.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 4. View of upland (new field habitat) at wetland determination sample point SP04. Photo taken facing east.



Photograph Location 4. View of upland (new field habitat) at wetland determination sample point SP04. Photo taken facing west.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 5. Representative view of existing culvert/storm drain within the Project area.



Photograph Location 6. Representative view of an upland drainage feature within the Project area. Photo taken facing east.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 6. Representative view of an upland drainage feature within the Project area. Photo taken facing west.



Photograph Location 7. View of Wetland 2. Photo taken facing north.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 7. View of Wetland 2. Photo taken facing east.



Photograph Location 7. View of Wetland 2. Photo taken facing south.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 7. View of Wetland 2. Photo taken facing west.



Photograph Location 7. Representative view of soil profile at wetland determination sample point SP05.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 8. View of upland (new field habitat) at wetland determination sample point SP06. Photo taken facing east.

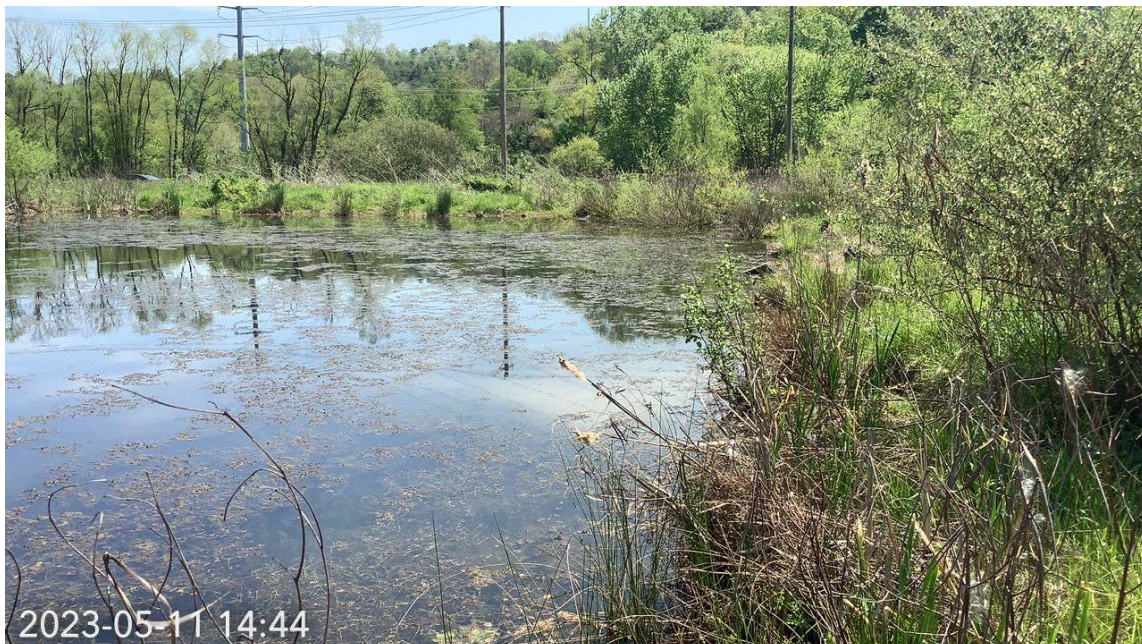


Photograph Location 8. View of upland (new field habitat) at wetland determination sample point SP06. Photo taken facing west.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 9. View of Open Water 1. Photo taken facing north.



Photograph Location 9. View of Open Water 1. Photo taken facing south.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 10. View of Wetland 3. Photo taken facing north.



Photograph Location 9. View of Wetland 3. Photo taken facing east.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 10. View of Wetland 3. Photo taken facing south.



Photograph Location 10. View of Wetland 3. Photo taken facing west.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 10. Representation view of soil profile at wetland determination sample point SP07.



Photograph Location 11. View of upland (maintained lawn habitat) at wetland determination sample point SP08. Photo taken facing east.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 11. View of upland (maintained lawn habitat) at wetland determination sample point SP08. Photo taken facing west.



Photograph Location 12. View of Wetland 4. Photo taken facing north.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 12. View of Wetland 4. Photo taken facing east.



Photograph Location 12. View of Wetland 4. Photo taken facing south.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 12. View of Wetland 4. Photo taken facing west.



Photograph Location 12. Representative view of soil profile at wetland determination sample point SP09.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 13. View of upland (new field habitat) at wetland determination sample point SP10. Photo taken facing east.



Photograph Location 13. View of upland (new field habitat) at wetland determination sample point SP10. Photo taken facing west.

C.2 HABITAT PHOTOGRAPHS

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 1. Representative view of new field habitat and early successional deciduous forest habitat within the Project area. Photograph taken facing south.



Photograph Location 2. Representative view of pasture habitat within the Project area. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 3. Representative view of graveled substation within the Project area.
Photograph taken facing north.

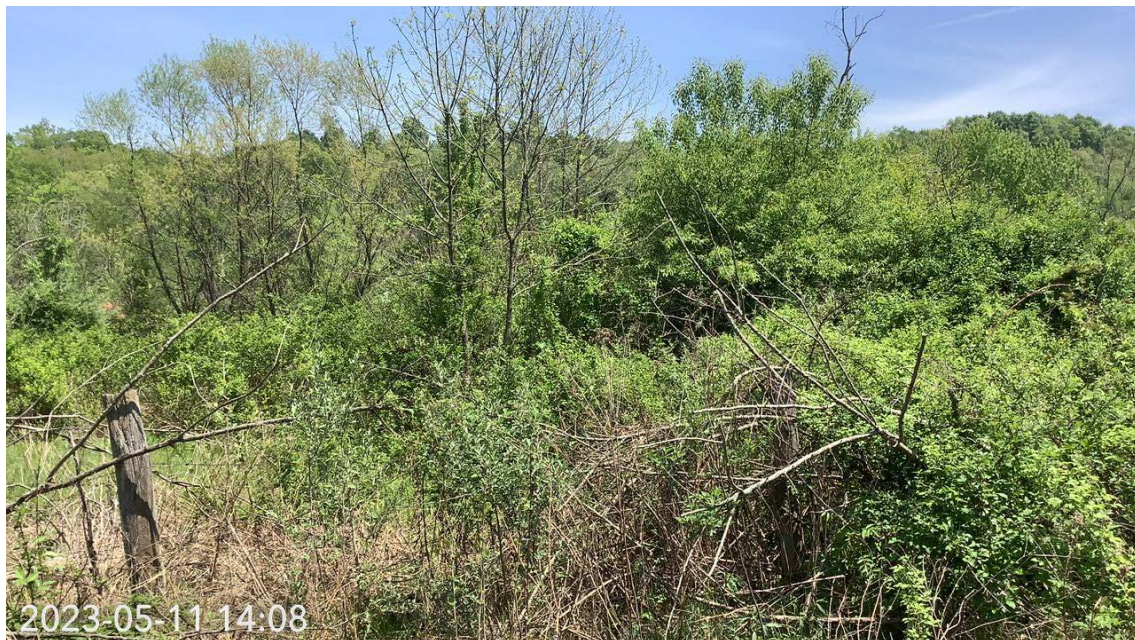


Photograph Location 4. Representative view of maintained lawn habitat within the Project area. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 5. Representative view of new field habitat within the Project area.
Photograph taken facing west.



Photograph Location 6. View of early successional deciduous forest habitat within the Project area. Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
Elk Extension North 138 kV Line Adjustment Project
Vinton County, Ohio



Photograph Location 7. View of pasture habitat within the Project area. Photograph taken facing north.

Appendix D DATA FORMS

D.1 WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP01
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.24974 Long: -82.461001 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>MCAKW01 Wetland 1</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water Table Present Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP01

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. <u>Salix nigra</u>	<u>2</u>	<u>No</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

2 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. <u>Salix nigra</u>	<u>4</u>	<u>No</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

4 = Total Cover

Herb Stratum (Plot size: <u>5 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. <u>Typha latifolia</u>	<u>45</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Carex sp.</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Juncus effusus</u>	<u>4</u>	<u>No</u>	<u>FACW</u>
4. <u>Asclepias incarnata</u>	<u>4</u>	<u>No</u>	<u>OBL</u>
5. <u>Rubus flagellaris</u>	<u>3</u>	<u>No</u>	<u>FACU</u>
6. <u>Eupatorium perfoliatum</u>	<u>2</u>	<u>No</u>	<u>FACW</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

73 = Total Cover

Woody Vine Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = Total Cover

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>55</u>	x 1 = <u>55</u>
FACW species <u>21</u>	x 2 = <u>42</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>3</u>	x 4 = <u>12</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>64</u> (A)	<u>109</u> (B)
Prevalence Index = B/A = <u>1.70</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹
(Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes No

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP02
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope %: 1-2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.249870 Long: -82.461197 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP02

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>6</u> x 2 = <u>12</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>81</u> x 4 = <u>324</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>87</u> (A) <u>336</u> (B) Prevalence Index = B/A = <u>3.86</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				
1. <u>Poa pratensis</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	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)
2. <u>Achillea millefolium</u>	<u>12</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Solidago canadensis</u>	<u>7</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Agrimonia parviflora</u>	<u>4</u>	<u>No</u>	<u>FACW</u>	
5. <u>Rubus flagellaris</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
6. <u>Onoclea sensibilis</u>	<u>2</u>	<u>No</u>	<u>FACW</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>87</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>

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

SOIL

Sampling Point: SP02

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/2	97					Clay Loam	
10-18	2.5Y 5/2	93	7.5YR 4/6	7	C		Clay Loam	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 146, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP03
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.249743 Long: -82.461693 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>MCAKW02</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Aquatic Fauna (B13) <u>X</u> High Water Table (A2) _____ True Aquatic Plants (B14) <u>X</u> Saturation (A3) _____ Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present Yes <u>X</u> No _____ Depth (inches): <u>10</u> Saturation Present Yes <u>X</u> No _____ Depth (inches): <u>3</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP03

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				
1. <u>Onoclea sensibilis</u>	35	Yes	FACW	
2. <u>Agrimonia parviflora</u>	15	Yes	FACW	
3. <u>Dichanthelium clandestinum</u>	15	Yes	FAC	
4. <u>Apocynum cannabinum</u>	12	Yes	FACU	
5. <u>Poa pratensis</u>	7	Yes	FACU	
6. <u>Phalaris arundinacea</u>	5	No	FACW	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>89</u>	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>55</u>	x 2 = <u>110</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>19</u>	x 4 = <u>76</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>89</u> (A)	<u>231</u> (B)
Prevalence Index = B/A = <u>2.6</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹
(Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes No

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP04
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope %: 2-3
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.249879 Long: -82.461951 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP04

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)					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. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
<u>0</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>	
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)					<small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small>
1. <u>Dichanthelium clandestinum</u>	<u>65</u>	<u>Yes</u>	<u>FAC</u>		
2. <u>Solidago altissima</u>	<u>7</u>	<u>Yes</u>	<u>FACU</u>		
3. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FACW</u>		
4. <u>Achillea millefolium</u>	<u>4</u>	<u>No</u>	<u>FACU</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>81</u> = Total Cover				Woody Vine Stratum (Plot size: <u>30 ft</u>)	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
<u>0</u> = Total Cover				Remarks: (Include photo numbers here or on a separate sheet.)	

VEGETATION – Use scientific names of plants.

Sampling Point: SP05

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. Prunus serotina	4	No	FACU
2. Cornus florida	3	No	FACU
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

7 = Total Cover

Sapling/Shrub Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

0 = Total Cover

Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. Agrimonia parviflora	15	Yes	FACW
2. Onoclea sensibilis	8	Yes	FACW
3. Toxicodendron radicans	6	No	FAC
4. Solidago canadensis	4	No	FACU
5. Geum canadense	3	No	FACU
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

36 = Total Cover

Woody Vine Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. Lonicera japonica	7	No	FACU
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

7 = Total Cover

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>23</u>	x 2 = <u>46</u>
FAC species <u>6</u>	x 3 = <u>18</u>
FACU species <u>21</u>	x 4 = <u>84</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>50</u> (A)	<u>148</u> (B)
Prevalence Index = B/A = <u>2.96</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹
(Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes No

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP06
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope %: 1
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.248504 Long: -82.462096 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP06

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)					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. <u>Elaeagnus umbellata</u>	<u>15</u>	<u>Yes</u>	<u>UPL</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
<u>15</u> = Total Cover				<small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small> Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>	
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)					
1. <u>Solidago canadensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>		
2. <u>Agrimonia parviflora</u>	<u>7</u>	<u>No</u>	<u>FACW</u>		
3. <u>Toxicodendron radicans</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
4. <u>Dichanthelium clandestinum</u>	<u>4</u>	<u>No</u>	<u>FAC</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>36</u> = Total Cover					
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)					
1. <u>Lonicera japonica</u>	<u>7</u>	<u>No</u>	<u>FACU</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
<u>7</u> = Total Cover					

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP07
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.247260 Long: -82.461808 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>MCAKW03</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> Saturation (A3) _____ Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present Yes <u>X</u> No _____ Depth (inches): <u>3</u> Water Table Present Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP07

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>12</u> x 1 = <u>12</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>57</u> (A) <u>102</u> (B) Prevalence Index = B/A = <u>1.79</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Lysimachia nummularia</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Typha latifolia</u>	<u>12</u>	<u>No</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>57</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP08
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Side slope Local relief (concave, convex, none): Convex Slope %: 3-5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.247303 Long: -82.461809 Datum: WGS84
 Soil Map Unit Name: Omulga silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: SP08

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>75</u> x 4 = <u>300</u> UPL species <u>7</u> x 5 = <u>35</u> Column Totals: <u>97</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>3.92</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				
1. <u>Poa pratensis</u>	<u>75</u>	<u>Yes</u>	<u>FACU</u>	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)
2. <u>Viola sororia</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Plantago lanceolata</u>	<u>7</u>	<u>Yes</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>97</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP09
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.247113 Long: -82.461525 Datum: WGS84
 Soil Map Unit Name: Stokly-Philo silt loams, 0 to 3 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>MCAKW04</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP09

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)					Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
<u>0</u> = Total Cover				<small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small> Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)					
1. <u>Typha latifolia</u>	<u>75</u>	<u>Yes</u>	<u>OBL</u>		
2. <u>Lysimachia nummularia</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>		
3. <u>Penstemon digitalis</u>	<u>4</u>	<u>No</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>129</u> = Total Cover					
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
<u>0</u> = Total Cover					

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

SOIL

Sampling Point: SP09

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/1	85	7.5YR 5/8	15	C		Clay Loam	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 146, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Elk Extension North 138 kV Line Adjustment City/County: Vinton County Sampling Date: 05/11/2023
 Applicant/Owner: AEP Ohio Transmission Company Inc. State: Oh Sampling Point: SP10
 Investigator(s): Malea Casey, Aaron Kwolek Section, Township, Range: T011N, R017W, S22
 Landform (hillside, terrace, etc.): Side slope Local relief (concave, convex, none): Convex Slope %: 1-2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 39.247192 Long: -82.461452 Datum: WGS84
 Soil Map Unit Name: Stokly-Philo silt loams, 0 to 3 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP10

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	<u>Absolute % Cover</u>	<u>Dominant Species</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>90</u> (A) <u>365</u> (B) Prevalence Index = B/A = <u>4.06</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5 ft</u>)				
1. <u>Poa pratensis</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>	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)
2. <u>Erigeron annuus</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	
3. <u>Trifolium repens</u>	<u>15</u>	<u>No</u>	<u>FACU</u>	
4. <u>Plantago major</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5. <u>Valerianella locusta</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>90</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>

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

D.2 ORAM DATA FORMS

Background Information

Name:	Maled Casey		
Date:	05/11/2023		
Affiliation:	stantec Consulting Services Inc.		
Address:	10200 Alliance Road Suite 300 Blue Ash, OH 45242		
Phone Number:	(513) 526-4084		
e-mail address:	maled.casey@stantec.com		
Name of Wetland:	Wetland 1		
Vegetation Community(ies):	Emergent		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	<p style="text-align: center;">AEP EIK station</p> <p style="text-align: right;">Morgan Rd. EIK Fork</p> <p style="text-align: center;">~290ft.</p> <p style="text-align: left;">N ↑</p>		
Lat/Long or UTM Coordinate	39.249794, -82.461084		
USGS Quad Name	McArthur, OH		
County	Vinton		
Township	—		
Section and Subsection	—		
Hydrologic Unit Code	50901010302		
Site Visit	5/11/2023		
National Wetland Inventory Map	N/a		
Ohio Wetland Inventory Map	N/a		
Soil Survey	OmUbl; OmUg silt loam, 2 to 6 percent slopes		
Delineation report/map	see Ecological Survey Report.		

Name of Wetland: <u>Wetland 1</u>	
Wetland Size (acres, hectares):	<u>0.01 ac.</u>
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
<p>The sketch depicts a site layout. At the top is a 'Pasture' area. Below it is 'Wetland 1', a horizontal strip with a width of approximately 75 feet and a length of approximately 290 feet. Below the wetland is the 'AEPEIK Station'. At the bottom of the sketch is an 'ESDF' area. To the left of the wetland is 'Wetland 2'. To the right are 'Morgan Rd' and 'Elk Fork'. A north arrow is located in the bottom right corner of the sketch area.</p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>11.5</u>	Category: <u>1</u>

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.	✓	
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.	✓	
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.	✓	
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.	✓	
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.	✓	

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: <u>Wetland 1</u>	Rater(s): <u>M. Casey</u>	Date: <u>09/11/23</u>
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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)
- <0.1 acres (0.04ha) (0 pts)

2	2
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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)
- 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), shrub land, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

6	8
max 30 pts.	subtotal

Metric 3. Hydrology.

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

- High pH groundwater (5)
- Other groundwater (3)
- 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 only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <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)
- 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)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other |

4.5	12.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

12.5
subtotal this page

Site: Wetland 1 Rater(s): M. Casey Date: 05/11/23

12.5
subtotal first page

0 12.5
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1 11.5
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer to 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)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 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 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 vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp 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

11.5

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	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	2	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	4.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	-1	
	TOTAL SCORE	11.5	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p>	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p>	<p>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.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p>	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> 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</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p>	<p>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.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p>	<p>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).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p>	<p>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.</p>

Final Category
Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Malea Casey
Date:	05/11/2023
Affiliation:	stantec consulting Services Inc.
Address:	10200 Alliance Road Suite 300 Blue Ash, OH 45242
Phone Number:	(513) 526-4084
e-mail address:	malea.casey@stantec.com
Name of Wetland:	Wetland 2
Vegetation Communit(ies):	EMergent
HGM Class(es):	Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
<p>The map shows a hand-drawn layout. On the left, a north arrow points upwards. To its right is a vertical line representing a stream or road, labeled 'Wetland 2' with several downward-pointing arrows. Further right is a rectangular area labeled 'AEP EIK Station' with three downward-pointing arrows above it. To the right of the station is a vertical line labeled 'Morgan Rd.'. To the far right is another vertical line labeled 'EIK FORK'. A horizontal dashed line with a bracket below it indicates a distance of '~500 ft' between the 'Wetland 2' area and the 'AEP EIK Station'.</p>	
Lat/Long or UTM Coordinate	39.249794, -82.461084
USGS Quad Name	Zaleski, OH
County	Vinton
Township	—
Section and Subsection	—
Hydrologic Unit Code	50901010302
Site Visit	05/11/2023
National Wetland Inventory Map	N/a
Ohio Wetland Inventory Map	N/a
Soil Survey	omv1b1: omv1ga silt loam, 2 to 6 percent slopes
Delineation report/map	see Ecological Survey Report

Name of Wetland: <u>Wetland 2</u>	
Wetland Size (acres, hectares):	<u>1.11 ac</u>
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
<p>The sketch depicts a site layout with the following features: <ul style="list-style-type: none"> Wetland 1: Located at the top, bounded by a dashed line labeled '~75ft'. Wetland 2: A larger area below Wetland 1, with arrows indicating flow from the top-left towards the bottom-right. AEP EIK Substation: A large rectangular area in the upper-middle section. PUGIX: A smaller rectangular area at the bottom center. ESDF: A wavy line on the left side. Maintained Lawn: A wavy line at the bottom left. Roads: 'Mulgann Rd.' runs vertically on the right, and 'EIK Fork' is a stream-like feature on the far right. Distances: A dashed line labeled '~450ft' spans from the PUGIX area towards the center. North Arrow: Located on the right side, pointing upwards. </p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>25</u>	Category: <u>1</u>

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.	✓	
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.	✓	
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.	✓	
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.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✗
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.	✓	

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

Narrative Rating

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

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , 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	<input checked="" type="radio"/> 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 <i>Sphagnum</i> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> NO Go to Question 8b

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

Table 1. Characteristic plant species.

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

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

Site: Wetland 2 Rater(s): M. Caspey Date: 05/11/23

2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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)
- <0.1 acres (0.04ha) (0 pts)

4	6
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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)
- 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), shrub land, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	13
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select only one and assign score.

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

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

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

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)

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

8	21
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

21
subtotal this page

Site: Wetland 2 Rater(s): M Casey Date: 05/11/23

21

subtotal first page

0 21

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

4 25

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer to 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)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 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 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 vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp 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

25

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	4	
	TOTAL SCORE	25	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 <i>greater</i> than the Category 2 scoring threshold (<i>including</i> 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 <i>under-categorized</i> 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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.

Background Information

Name:	Mairea Casey
Date:	05/11/2023
Affiliation:	stantec consulting services Inc.
Address:	10200 Alliance Road Suite 300 Blue Ash, OH 45242
Phone Number:	(513) 526-4084
e-mail address:	mairea.casey@stantec.com
Name of Wetland:	Wetland 3
Vegetation Communit(ies):	Emergent
HGM Class(es):	Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
<p>The map shows a horizontal line representing Morgan Rd. Above it, a shaded area is labeled 'Wetland 3' with several downward-pointing arrows. To the right of Morgan Rd, a vertical line is labeled 'Morgan Rd.' and an arrow points to 'Pony N Rd'.</p>	
Lat/Long or UTM Coordinate	39.247235, -82.761737
USGS Quad Name	McArthur
County	Vinton
Township	
Section and Subsection	
Hydrologic Unit Code	50901010302
Site Visit	05/11/2023
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	OmU1B1: OmU1ga siltloam, 2 to 6 percent slopes
Delineation report/map	see Ecological Survey Report

Name of Wetland: <u>Wetland 3</u>	
Wetland Size (acres, hectares): <u>0.02 acre</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>16</u>	Category: <u>1</u>

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.	✓	
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.	✓	
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.	✓	
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.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✗
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.	✓	

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

Narrative Rating

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

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , 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	<input checked="" type="radio"/> 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 <i>Sphagnum</i> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> NO Go to Question 8b

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

Table 1. Characteristic plant species.

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

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

Site: Wetland 3 Rater(s): M. Casey Date: 05/11/23

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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)
- <0.1 acres (0.04ha) (0 pts)

3	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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)
- 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), shrub land, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8	11
max 30 pts.	subtotal

Metric 3. Hydrology.

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

- High pH groundwater (5)
- Other groundwater (3)
- 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 only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <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)
- 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)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

6	17
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input checked="" type="checkbox"/> toxic pollutants | <input checked="" type="checkbox"/> nutrient enrichment |

17
subtotal this page

Site: Wetland 3 Rater(s): M. Casey Date: 09/11/23

17

subtotal first page

0 17

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1 16

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer to 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)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 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 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 vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp 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

16

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	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	3	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-1	
	TOTAL SCORE	16	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 <i>greater</i> than the Category 2 scoring threshold (<i>including</i> 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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.

Choose one	Final Category	Category 2	Category 3
	Category 1		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Maipa Casey	
Date: 05/11/2023	
Affiliation: Stantec consulting Services Inc.	
Address: 10200 Alliance Rd. Suite 300 Blue Ash, OH 45242	
Phone Number: (513) 526-4084	
e-mail address: maipa.casey@stantec.com	
Name of Wetland: Wetland 4	
Vegetation Community(ies): Emergent	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
<p style="text-align: center;">Morgan Rd Pony Rd</p> <p style="text-align: center;">~15 ft.</p> <p style="text-align: center;">↓ ↓ ↓ ↓ Wetland 4</p> <p style="text-align: right;">N ↑</p>	
Lat/Long or UTM Coordinate	39.246985, -82.461093
USGS Quad Name	McArthur
County	Vinton
Township	
Section and Subsection	
Hydrologic Unit Code	05091010302
Site Visit	05/11/2023
National Wetland Inventory Map	N/a
Ohio Wetland Inventory Map	N/a
Soil Survey	SKPIAF: stony-phlo silt loams, 0 to 3 percent slopes, frequently flooded
Delineation report/map	see Ecological Survey Report

Name of Wetland: <u>Wetland 4</u>	
Wetland Size (acres, hectares): <u>0.21 acres</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>2a</u>	Category: <u>7</u>

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.	✓	
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.	✓	
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.	✓	
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.	✓	
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.	✓	

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

Narrative Rating

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

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , 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	<input checked="" type="radio"/> 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 <i>Sphagnum</i> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> NO Go to Question 8b

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

Table 1. Characteristic plant species.

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

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

Site: Wetland 4

Rater(s): M. Cdsey

Date: 09/11/23

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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)
- <0.1 acres (0.04ha) (0 pts)

4.5	5.5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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)
- 0.5 NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

10	15.5
max 30 pts.	subtotal

Metric 3. Hydrology.

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

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- 5 <0.4m (<15.7in) (1)

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

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

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input

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)

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

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

12.5	28
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- None or none apparent (4)
- 2.5 Recovered (3)
- Recovering (2)
- 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)
- Poor (1)

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

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

Check all disturbances observed

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

28
subtotal this page

Site: Wetland 4 Rater(s): M. Casey Date: 09/11/23

28

subtotal first page

0	28
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	29
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer to 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)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 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 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 vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp 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

29

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	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	4.5	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	12.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	29	Category based on score breakpoints <i>category 1</i>

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p> <p>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.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> 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</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p> <p>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.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p> <p>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).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p> <p>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.</p>

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on
12/8/2023 4:45:51 PM**

in

Case No(s). 23-0985-EL-BLN

Summary: Letter of Notification Elk Extension North electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company, Inc..