

Construction Notice for the Jug Street-Flint Grid 138 kV Transmission Line Project



PUCO Case No. 25-0483-EL-BNR

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

Submitted by:
AEP Ohio Transmission Company, Inc.

May 21, 2025

CONSTRUCTION NOTICE FOR THE JUG STREET-FLINT GRID 138 kV TRANSMISSION LINE PROJECT

CONSTRUCTION NOTICE

AEP Ohio Transmission Company, Inc.

Jug Street-Flint Grid 138 kV Transmission Line Project

4906-6-05 Accelerated Application Requirements

AEP Ohio Transmission Company, Inc. (the Company) provides the following information to the Ohio Power Siting Board (OPSB) in accordance with the accelerated application requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-05(B) General Information

B(1) Project Description

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

The Company proposes to construct the Jug Street-Flint Grid 138 kV Transmission Line Project (the "Project") in Jersey Township, Licking County Ohio. The purpose of the Project is to provide a 138 kV interconnection to the Flint Grid Energy storage system facility (OPSB Case Number 21-1061-EL-BGN), proposed by Flint Grid, L.L.C., an Independent Power Producer (IPP). The PJM queue position is AF1-062. The Project will require two spans of 138 kV transmission line, totaling less than 0.1 mile in length, to be constructed between the Company's Jug Street Station to a point of interconnection with the IPP transmission line. The Project will be located on land owned by an affiliate to the Company or the IPP customer. The location of the Project is shown on **Figure 1** and **Figure 2** in **Appendix A**.

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

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

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

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

The Project has been assigned Case No. 25-0483-EL-BNR.

AEP Ohio Transmission Company, Inc.

Jug Street-Flint Grid 138 kV Transmission Line Project

25-0483-EL-BNR

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B(2) Statement of Need

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

Flint Grid L.L.C. plans to build a 200 MW battery storage generation facility in Licking County, Ohio. As part of the AF1-062 IPP Interconnection Service Agreement, the Company must connect transmission assets to the proposed generation facility. To address the IPP's plans, the Company will install less than 0.1 mile of new 138 kV transmission line to connect to the IPP's POI.

Failure to move forward with the proposed Project will result in the Company's inability to serve the customer's generation interconnection request, thereby jeopardizing the customer's required in-service date per the FERC approved Interconnection Service Agreement.

The Project has been assigned PJM network upgrade number of n8420. The Project was included on pages 93 and 94 of the Company's 2025 Long Term Forecast Report which is provided in **Appendix B**.

B(3) Project Location

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

The location of the Project in relation to existing transmission lines and substations is shown on **Figure 1** in **Appendix A**.

B(4) Alternatives Considered

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

The Project connects an IPP's storage facility to the existing Jug Street Station. The only properties crossed are owned by the IPP and an affiliate of the Company. Based on the IPP's approved storage facility and existing facilities in the area, the proposed location of the 138 kV transmission line is the most suitable location for the Project. Other alternatives would require impacting additional neighboring properties and 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). Wetland impacts associated with the Project construction have been addressed through the appropriate permitting. Therefore, this alternative represents the most suitable location and is the most appropriate solution for meeting the Company and specific customer's needs in the area.

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B(5) Public Information Program

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

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

B(6) Construction Schedule

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

Construction of the Project is planned to begin in October 2025 with an anticipated in-service date of October 2026.

B(7) Area Map

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

Figure 1, in Appendix A, identifies the location of the Project area on a United States Geological Survey 1:24,000 quadrangle map of Jersey, Ohio and New Albany, Ohio. **Appendix A, Figure 2** displays the Project components on a 2020 aerial photograph.

B(8) Property Agreements

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

A list of properties required for the Project is provided in **Table 1**, below.

Table 1 – Property Agreements

| Property Parcel Number | Agreement Type | Easement or Option Obtained (Yes/No) |
|-------------------------------|---------------------------------|---|
| 3711174400004 | Property of a Company Affiliate | Not Applicable |
| 3711174402000 | New Easement Agreement | Yes |

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B(9) Technical Features

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

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

The transmission line is estimated to include the following:

| | |
|-----------------|---|
| Voltage: | 138kV |
| Conductors: | 2-bundle 795 kCM 26/7 ACSR Drake |
| Static Wire: | OPGW 0.646 144 Fiber |
| Insulators: | Polymer |
| ROW Width: | 70 feet |
| Structure Type: | Two (2) single circuit, steel monopole dead end |

B(9)(b) Electric and Magnetic Fields

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

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

B(9)(c) Project Cost

The estimated capital cost of the project.

The cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$1.8 million using a Class 4 estimate. The costs for this Project will be recovered through total reimbursement by the IPP.

B(10) Social and Ecological Impacts

The applicant shall describe the social and ecological impacts of the project:

B(10)(a) Land Use

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

The Project is located within Jersey Township, Licking County, Ohio. Adjacent properties to the north and south are within commercial and industrial areas of the City of New Albany. An aerial photograph of the Project vicinity is provided as **Figure 2**. Field observations indicate the Project area is an existing gravel pad at Jug Street Station and a wooded and scrub/shrub area of a property planned for development by the IPP. The Project will require less than 0.5 acre of tree clearing.

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B(10)(b) Agricultural Land

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.

No agricultural land or agricultural easements are located within the Project footprint. The Licking County Auditor was contacted on April 16, 2025 regarding registered as Agricultural District Land. Neither of the properties impacted by the Project were identified as an Agricultural District Land parcel. No Ohio Department of Agriculture agricultural easements are crossed by the Project.

B(10)(c) Archaeological and Cultural Resources

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

A cultural resource survey and report were conducted by the Company’s consultant for the Project in February 2025. Correspondence from the State Historic Preservation Office (“SHPO”) was received in March 2025, see **Appendix C**. The SHPO stated that that the Project will have no adverse effect on historic properties and that no further archaeological work 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.

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

Table 2 – Anticipated Permits

| Permit/Authorization/Coordination | Agency | Date |
|--|--------------------------------------|---|
| Storm Water Pollution Prevention Plan | Ohio Environmental Protection Agency | Not applicable. The ground disturbance for the Project is less than one acre. |
| | City of New Albany | |
| Notice Criteria | Federal Aviation Administration | Submitted through Criteria Tool on 3/17/2025, no further action required |

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| | | |
|-----------------------------------|---|--|
| Clean Water Act Section 404/401 | United States Army Corps of Engineers | Impacts to wetlands W-MRK-004 and W-MRK-004 were permitted by the Company under isolated wetland permits DSW401227824W and DSW401238701W. Impacts to the wetlands east of the Company's proposed Project are the result of the IPP's project and were permitted under isolated wetland permit DSW401217621W or will be permitted by the IPP. |
| | Ohio Environmental Protection Agency | |
| Archaeology/Architectural | Ohio Historic Preservation Office | Coordination complete March 28, 2025, no additional work required |
| Threatened and Endangered Species | United States Fish and Wildlife Service | Consultation complete 4/10/2024 |
| Threatened and Endangered Species | Ohio Department of Natural Resources | Consultation complete 5/3/2024 |
| Floodplain | City of New Albany | Not Applicable |

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.

On March 28, 2024, coordination letters were submitted to the United State Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review of the Project for potential impacts to state and/or federally protected species. ODNR and USFWS provided responses on May 3, 2024 and April 10, 2024, respectively. Copies of the agencies' responses are presented in **Appendix C**.

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Table 3 – Threatened, Endangered, and Rare Species Summary

| Name | Status | Agency Comments | Avoidance Dates | Potential Impacts |
|--|---|---|---|--|
| Bats | | | | |
| Indiana Bat (<i>Myotis sodalis</i>) | State and Federal Endangered | If trees are present and must be cut, cutting should occur from October 1 to March 31. A desktop assessment should be conducted, followed by a field assessment if needed, to determine potential hibernacula present within 0.25 miles of the Project. | April 1 – September 30 without additional coordination and surveys. | Potential summer roosting habitat is present. Seasonal tree clearing between October 1 and March 31. No potential hibernacula were observed within the Project area. No impacts to bat species are proposed. |
| Northern Long-eared Bat (<i>Myotis septentrionalis</i>) | State and Federal Endangered | | | |
| Little Brown Bat (<i>Myotis lucifugus</i>) | State Endangered | | | |
| Tri-colored Bat (<i>Perimyotis subflavus</i>) | State Endangered; Federal Proposed Endangered | | | |
| Birds | | | | |
| Northern Harrier (<i>Circus hudsonis</i>) | State Endangered | If habitat consisting of large marshes or grasslands will be impacted, construction should be avoided during nesting period. | April 15 – July 31 | None – No suitable habitat. |
| Fish | | | | |
| Lake Chubsucker (<i>Erimyzon sucetta</i>) | State Threatened | Due to location and that there is no in-water work proposed in a perennial stream, impacts to this species are not likely. | Not Applicable | None – No streams on Project property and no in-water work proposed. |

Table 5 in Appendix D provides the full evaluation of the federal and state threatened or endangered species for the solar facility, which includes the Project area.

Based on the nature of the proposed Project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated.

B(10)(f) Areas of Ecological Concern

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

The Company’s consultant conducted a wetland and stream delineation survey in the Project study area on November 14, 2022, June 11, 2024, and October 18, 2024 and prepared an Ecological Survey Report, which is provided in **Appendix D**. The IPP’s consultant also conducted wetland and stream delineation surveys in the vicinity of the Project and the IPP station, which were confirmed by the Company’s AEP Ohio Transmission Company, Inc. Jug Street-Flint Grid 138 kV Transmission Line Project

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consultant. The surveys of the Project area identified five wetlands, no streams, and one pond. Two of the wetlands (W-AGS-002/EMHT Wetland A and W-AGS-003/EMHT Wetland B) and a portion of the third (WAGS-004/EMHT Wetland C) were permitted for total removal by the IPP under OEPA isolated wetland permit DSW401217621W (February 14, 2022) and are not expected to be present by the time construction of the Project begins. One wetland (W-MRK-005/EMHT Wetland D) and a portion of a second wetland (W-MRK-004/EMHT Wetland C) were permitted by the Company under OEPA isolated wetland permits DSW401227824W (February 4, 2022) and DSW401238701W (March 15, 2024). Additional permitting is not expected to be necessary or will be the responsibility of the IPP.

Based on a review of the Protected Areas Database of the United States as well as the Conservation Easement Database, there are no state or national parks, forests, wildlife areas or mapped conservation easements in the vicinity of the Project.

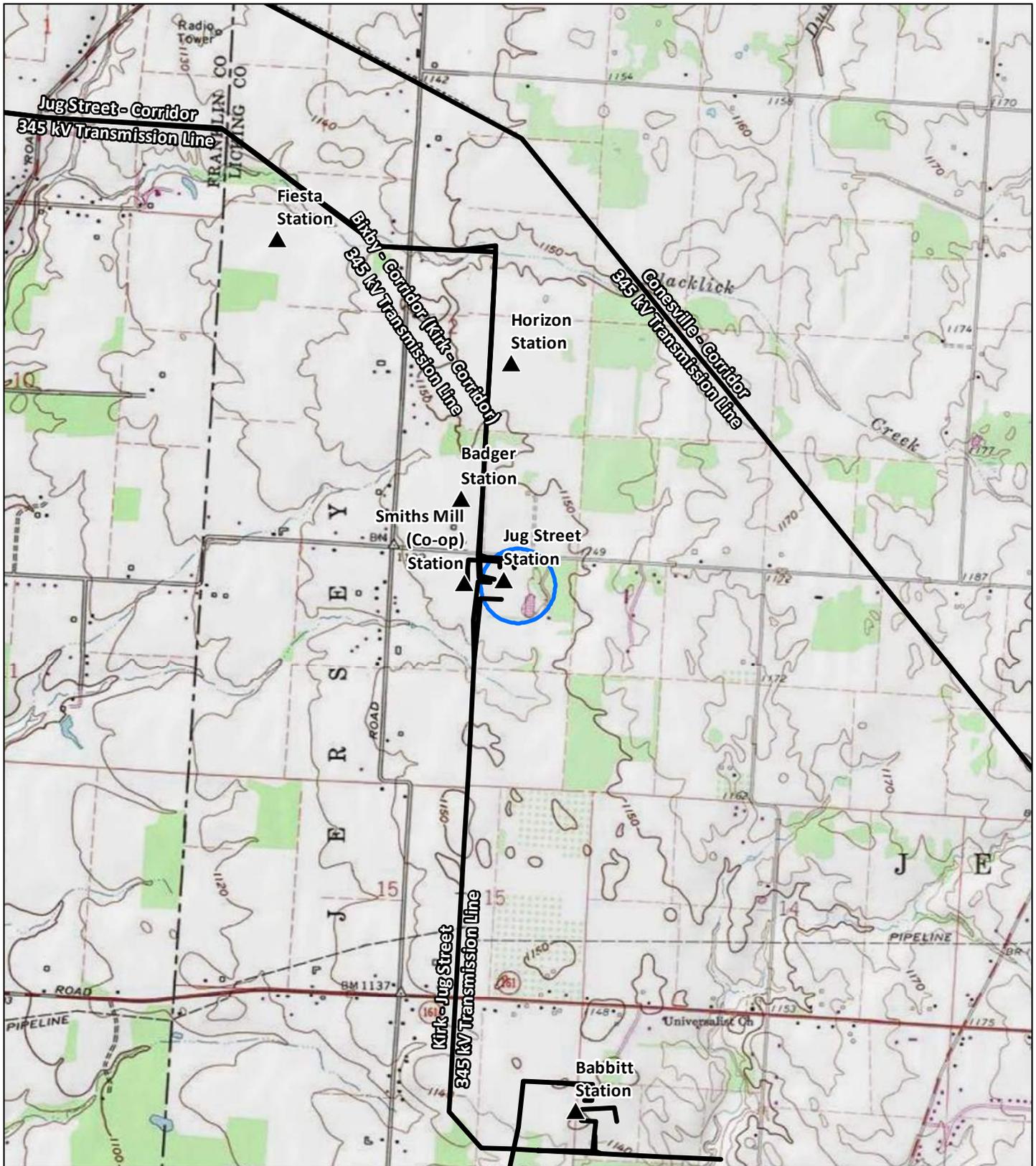
The FEMA Flood Insurance Rate Map (“FIRM”) was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map number 39089C0280J). Based on this mapping, no FEMA-designated 100-year floodplains or floodways are crossed by the proposed alignment.

B(10)(g) Unusual Conditions

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

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

Appendix A Project Maps



Legend:

- Project
- Existing Transmission Line
- Existing Substation

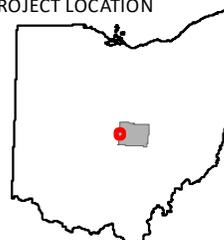
Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Jersey and New Albany, Ohio)

Ohio State Plane South NAD 1983



March 17, 2025

PROJECT LOCATION



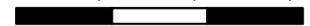
LICKING COUNTY, OHIO

**FIGURE 1
TOPOGRAPHIC OVERVIEW**

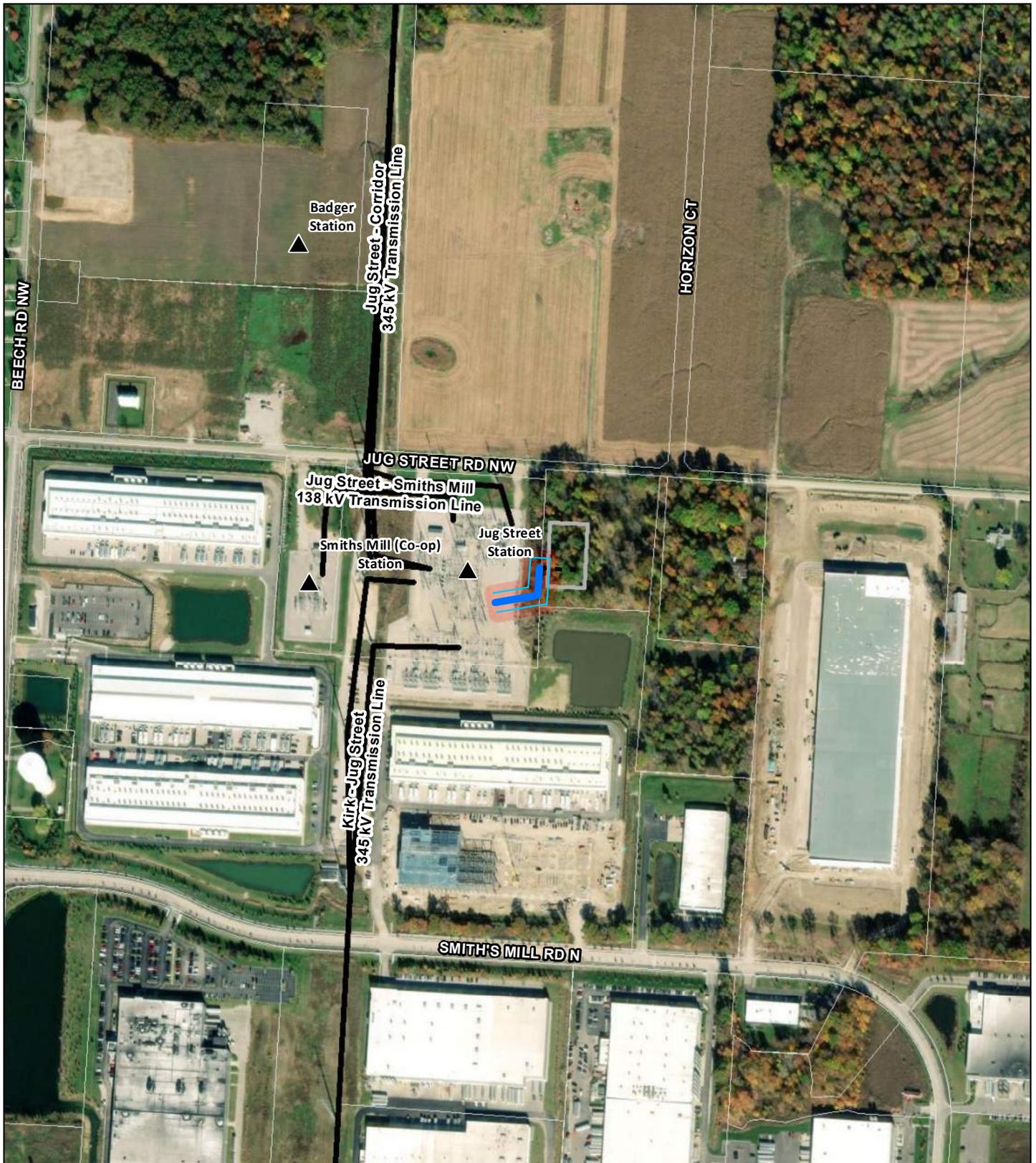


Jug Street-Flint Grid 138 kV Transmission Line Project

0 1,000 2,000 3,000



Feet



Legend:

- Proposed Transmission Line
- Proposed 70-foot ROW
- Proposed 140-foot Route Corridor
- Existing Transmission Line
- Proposed IPP Distribution Station
- Proposed IPP 138 kV Transmission Line
- Parcel Boundary

Data Sources: AEP,
ESRI World Imagery (2022)

Ohio State Plane South
NAD 1983



March 17, 2025

PROJECT LOCATION

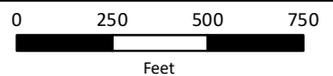


LICKING COUNTY, OHIO

**FIGURE 2
PROJECT AERIAL MAP**



Jug Street-Flint Grid 138 kV
Transmission Line Project



Appendix B Long-Term Forecast Report

| | | |
|----|---|--|
| 2 | POINTS OF ORIGIN AND TERMINATION | Kirk - West Hebron INTERMEDIATE STATION - Peach |
| 3 | RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS | 9.62 mi / 100 ft / 2 circuit (0.1 mi of work) |
| 4 | VOLTAGE: DESIGN / OPERATE | 138 / 138 kV |
| 5 | APPLICATION FOR CERTIFICATE: | 2025 |
| 6 | CONSTRUCTION: | 2026 - 2027 |
| 7 | CAPITAL INVESTMENT: | \$0.6 M |
| 8 | PLANNED SUBSTATION: | Peach |
| 9 | SUPPORTING STRUCTURES: | Steel |
| 10 | PARTICIPATION WITH OTHER UTILITIES | N/A |
| 11 | PURPOSE OF THE PLANNED TRANSMISSION LINE | Service to new customer |
| 12 | CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION | Unable to serve new customer |
| 13 | MISCELLANEOUS: | N/A |
| 1 | LINE NAME AND NUMBER: | Jug Street - Flint Grid 138 kV (TP2020264 AF1-062) |
| 2 | POINTS OF ORIGIN AND TERMINATION | Jug Street - Flint Grid INTERMEDIATE STATION - N/A |
| 3 | RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS | 0.05 mi / 100 ft / 1 circuit |
| 4 | VOLTAGE: DESIGN / OPERATE | 138 kV / 138 kV |
| 5 | APPLICATION FOR CERTIFICATE: | 2025 |
| 6 | CONSTRUCTION: | 2026 |
| 7 | CAPITAL INVESTMENT: | \$0.7 M (reimbursable) |
| 8 | PLANNED SUBSTATION: | N/A |
| 9 | SUPPORTING STRUCTURES: | Steel |
| 10 | PARTICIPATION WITH OTHER UTILITIES | N/A |
| 11 | PURPOSE OF THE PLANNED TRANSMISSION LINE | Service to new customer |

| | | |
|----|---|--|
| 12 | CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION | Unable to serve new customer |
| 13 | MISCELLANEOUS: | N/A |
| 1 | LINE NAME AND NUMBER: | Maddox Creek-Aurora Solar 345 kV (TP2021206 AF2-014) |
| 2 | POINTS OF ORIGIN AND TERMINATION | Maddox Creek-Aurora Solar INTERMEDIATE STATION - N/A |
| 3 | RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS | 0.05 mi / 100 ft / 1 circuit |
| 4 | VOLTAGE: DESIGN / OPERATE | 345 kV / 345 kV |
| 5 | APPLICATION FOR CERTIFICATE: | 2025 |
| 6 | CONSTRUCTION: | 2026 - 2027 |
| 7 | CAPITAL INVESTMENT: | \$0.7 M (reimbursable) |
| 8 | PLANNED SUBSTATION: | N/A |
| 9 | SUPPORTING STRUCTURES: | Steel |
| 10 | PARTICIPATION WITH OTHER UTILITIES | N/A |
| 11 | PURPOSE OF THE PLANNED TRANSMISSION LINE | Service to new customer |
| 12 | CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION | Unable to serve new customer |
| 13 | MISCELLANEOUS: | N/A |
| 1 | LINE NAME AND NUMBER: | Lemaster - Lockbourne 138 kV (TP2022021 AF2-371) |
| 2 | POINTS OF ORIGIN AND TERMINATION | Lemaster - Lockbourne INTERMEDIATE STATION - Good Hope, Royalton |
| 3 | RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS | 54.4 mi / 100 ft / 1 circuit (0.1 mi of line work) |
| 4 | VOLTAGE: DESIGN / OPERATE | 138 / 138 kV |
| 5 | APPLICATION FOR CERTIFICATE: | 2025 |
| 6 | CONSTRUCTION: | 2027 - 2028 |
| 7 | CAPITAL INVESTMENT: | \$0.9 M (reimbursable) |
| 8 | PLANNED SUBSTATION: | Royalton |
| 9 | SUPPORTING STRUCTURES: | Steel |

Appendix C Agency Correspondence



In reply, refer to
2025-LIC-64237

March 28, 2025

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

RE: Jug Street IPP Project, Jersey Township, Licking County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on February 28, 2025, regarding the proposed Jug Street IPP Project located in Jersey Township, Licking County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board (OPSB) rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Management Investigations for the 3.0 ha (7.4 ac) Jug Street IPP Project in Jersey Township, Licking County, Ohio* by Ryan J. Weller and Scott McIntosh (Weller & Associates, Inc. 2025). These investigations were conducted for the installation of an IPP Station and associated infrastructure. A literature review, visual inspection, and shovel test unit excavations were completed as part of the investigations. Areas of visible disturbance were noted within the project area and a small portion of the project area had been previously investigated for cultural resources. There were no previously documented archaeological sites located within the project area, and no new archaeological sites were identified during the survey. Our office agrees no additional archaeological investigation is needed. No architectural resources 50 years of age or older are located within the Area of Potential Effects (APE).

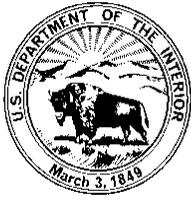
Based on the information provided, it is our office's opinion that the project, as proposed, will have no effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional cultural resources are discovered during the implementation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

Sincerely,

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

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

RPR Serial No: 1107713



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



April 10, 2024

Project Code: 2024-0067033

Dear Joshua Holmes:

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

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

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

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

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

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

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

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

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

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Erin Knoll".

Erin Knoll
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
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
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Phone: (614) 265-6661
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May 3, 2024

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

Re: 24-0560_AEP Jug Street Transco Work

Project: The proposed project involves temporary access along the east side of the existing Jug Station to replace one existing structure along a 138 kilovolt (KV) Independent Power Producer (IPP) transmission line that ties in directly to the existing Jug Station.

Location: The proposed project is located in the City of New Albany and Jersey Township, Licking County, Ohio.

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

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

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

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible.

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

The project is within the of range the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

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

Thank you for affording us the opportunity to comment.

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

The [local floodplain administrator](#) should be contacted concerning the possible need for any floodplain permits or approvals for this project.

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

Mike Pettegrew
Environmental Services Administrator

Appendix D Ecological Survey Report

JUG STREET TRANSCO WORK PROJECT

LICKING COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:

American Electric Power Ohio Transmission Company
8500 Smiths Mill Road
New Albany, Ohio 43054



Prepared by:

AECOM

525 Vine Street, Suite 1900
Cincinnati, Ohio 45202

Project #: 60727735

January 2025

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1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing temporary access along the east side of the existing Jug Station to replace one existing structure along a 138 kilovolt (KV) Independent Power Producer (IPP) transmission line that ties in directly to the existing Jug Station in Licking County, Ohio (OH), as part of the Jug Street TransCo Work Project (Project). The Project Survey Area associated with this Ecological Report is located within Jersey, OH United States Geological Survey (USGS) 7.5-minute topographical quadrangle as displayed on the Project Location Map (**Figure 1**).

Due to active construction activities by others within the Project Survey Area, multiple approved USACE Jurisdictional Determinations (JDs), and Section 401 authorizations for wetland fills are present within this Project Survey Area. A copy of the JDs and Section 401 approvals by others are provided within **Appendix A**, and the location of these areas are shown on **Figures 2** and **3**. A summary table is provided below that illustrates the Section 401 authorized fills for features that intersect the boundary of the Project Survey Area (**Table 1**). For DSW401227824W, a copy of the permit approval was not publicly made available and can be requested from the Ohio EPA at request.

TABLE 1 – SECTION 401 PREVIOUSLY AUTHORIZED FILLS WITHIN PROJECT SURVEY AREA

| Feature Name | Habitat Type | Isolated | Jurisdiction Determination Approval No. | OEPA Authorization No. (Submission Date) | OEPA Proposed Acreage of Disturbance | Remaining Wetland Acreage | Acreage of Wetland Within Project Survey Area |
|----------------------------|--------------|----------|---|--|--------------------------------------|--------------------------------|---|
| W-AGS-002 / EMHT Wetland A | PFO | Yes | LRH-2022-879-SCR | DSW401217621W (February 14, 2022) | 1.06 | 0 | 1.06 ¹ |
| W-AGS-003 / EMHT Wetland B | PFO | Yes | | | 1.32 | 0 | 1.32 ¹ |
| W-AGS-004 / EMHT Wetland C | PEM | Yes | | | 0.08 | 0 | 0.08 ¹ |
| W-MRK-004 / EMHT Wetland C | PEM | Yes | LRH-2022-38-SCR | DSW401227824W (February 4, 2022) | 0.06 | 0 | 0.29 ² |
| | | | | | 0.23 | 0 | |
| W-MRK-005 / EMHT Wetland D | PEM | Yes | | | | DSW401238701W (March 15, 2024) | 0.03 |
| | | | | | Totals | 0 | 3.96 |

Notes:

- 1) Within the Project Survey Area, W-AGS-002/EMHT Wetland A and W-AGS-003 / EMHT Wetland B are permitted for complete removal under the existing approved OEPA permit# DSW401217621W. Site investigations identified that these wetlands still exist, and current customer development are beginning with tree clearing activities present at the time of survey. Therefore, these wetlands will not be present at the time of installation of the Project and are already subject for removal.
- 2) For W-MRK-004 / EMHT Wetland C and W-MRK-005 / EMHT Wetland D, the wetlands were permitted for complete removal under two separate OEPA Permits# DSW401227824W and DSW401238701W. Site investigations identified that these wetlands still exist, and no active disturbance appear to be present at the time.

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

2.0 METHODOLOGY

The field survey was completed within the Project survey area totaling approximately 7.4 acres. Prior to conducting field surveys, digital United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) data, USGS National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) 100-year floodplain data, USGS 7.5-minute topographic maps, and EMHT previous delineations in the area were reviewed to identify the occurrence and location of potential wetland areas and/or streams.

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

2.1 WETLAND DELINEATION

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

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

hydrology, vegetative community, and soil characteristics. Adjacent to each wetland complex, AECOM completed an additional USACE Data Form as a representative of the upland community.

2.1.1 WETLAND CLASSIFICATION

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

2.1.2 WETLAND ASSESSMENT

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

2.2 STREAM ASSESSMENT

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines the OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE, 2005).

2.2.1 OEPA PRIMARY HEADWATER HABITAT ASSESSMENT

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

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

2.2.2 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

The OEPA has designated each watershed in the state on based on whether it may be ineligible for coverage under the OEPA's 401 Water Quality Certification (WQC) for Nationwide Permits (OEPA, 2023). Mapping provided by the OEPA illustrates the eligibility of streams in the area to fall under a Nationwide Permit for 401 certification or if an individual state WQC needs to be applied for. Impacts to streams within each watershed would then have eligibility for 401 WQC determined by the watershed category. The three categories are defined as:

Eligible: Streams within the watershed are eligible for coverage under the OEPA's water quality certification for the Nationwide Permits if all other general and regional special terms and conditions are met.

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

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

2.2.3 UPLAND DRAINAGE FEATURES

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

A roadside ditch may also be documented as a UDF if it meets the "not potentially jurisdictional" characterization as described in the Office of Environmental Services *Roadway Ditch Characterization Flowchart* (Ohio Department of Transportation, 2014). This would include a ditch that originates entirely

within the roadway right-of-way, has a seasonal flow regime, was not constructed to drain a wetland, and does not have hydrophytic vegetation extending more than an insignificant amount beyond its original configuration.

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

2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a threatened and endangered species review and general field habitat surveys within the Project survey area. AECOM submitted requests to the Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the USFWS Ohio Ecological Services Field Office soliciting comments on the proposed Project. Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

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

AECOM conducted a desktop assessment of the Project survey area and a quarter-mile buffer around it to identify potentially occurring winter bat hibernaculum that may be present near the Project which is in **Figure 6**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and USGS websites.

3.0 RESULTS

On November 14, 2022, June 11, and October 18, 2024, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project survey area, AECOM delineated two wetlands. The delineated features are discussed in detail in the following sections.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Web Soil Survey, two soil map units are mapped within the Project survey area (USDA NRCS, 2024a and 2024b). Of these, one was identified as hydric soil, and one was identified as containing hydric inclusions. Soils indicated as hydric inclusions are not predominately hydric soils and hydric soils are more likely to be found in topographic settings. **Table 2** below provides a detailed overview

of all soil series and soil map units present within the Project survey area. Soil map units located in the Project survey area and vicinity are shown on **Figure 2**.

TABLE 2 - SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE PROJECT SURVEY AREA

| Soil Series | Map Unit Symbol | Map Unit Description | Topographic Setting | Hydric | Hydric Component (%) |
|-------------|-----------------|---|-------------------------------|--------|-------------------------|
| Bennington | BeA | Bennington silt loam, 0 to 2 percent slopes | Ground moraines, end moraines | Yes* | Condit 10% Pewamo 8% |
| | BeB | Bennington silt loam, 2 to 6 percent slopes | End moraines, ground moraines | Yes* | Condit 8% |
| Pewamo | Pe | Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes | Drainageways, depressions | Yes | Pewamo 95% |

Yes* = Hydric inclusion present

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project survey area crosses one mapped NWI feature (**Figure 2**). The mapped NWI feature is classified as Palustrine, Unconsolidated bottom, intermittently exposed, excavated (PUBGx), which was field verified as W-MRK-004 / EMHT Wetland C. The location of the mapped NWI feature is identified on **Figure 2**.

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM identified one new wetland. Additionally, AECOM confirmed the boundary of four previously delineated EMHT wetlands (W-AGS-002 / EMHT Wetland A, W-AGS-003 / EMHT Wetland B, W-AGS-004 / EMHT Wetland C and W-MRK-005 / EMHT Wetland D) and extended the boundary of one previously delineated wetland (W-MRK-004 / EMHT Wetland C). The previously delineated wetlands (W-AGS-003 /EMHT Wetland B, W-MRK-004 / EMHT Wetland C, and W-MRK-005 / EMHT Wetland D) have been disturbed as part of other construction activities not associated with the Project. All three wetlands were assigned ORAM Category 1 and two were assigned ORAM Category 2. The boundaries of both AECOM and EMHT delineated wetlands are provided on **Figure 3**.

All of the wetlands identified within the Project survey area have been given a determination of isolated (non-jurisdictional i.e., not WOTUS). Final jurisdictional status can only be determined by the USACE, and AECOM assessments are provisional. Details for each delineated wetland in the Project survey area are provided in **Table 3**. Completed USACE data forms and photographs of each wetland are provided in **Appendix B**.

TABLE 3 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROJECT SURVEY AREA

| Wetland ID | Location | | Isolated ? | Habitat Type | Delineated Area (acre) | ORAM | | Nearest Structure # (Existing / Proposed) | Existing Structure # in Wetland | Proposed Structure # in Wetland | Structure Installation Method | Proposed Impacts | |
|-------------------------------|-----------|------------|------------|--------------|------------------------|-------|----------|---|---------------------------------|---------------------------------|-------------------------------|-------------------------------|------------------------------|
| | Latitude | Longitude | | | | Score | Category | | | | | Temporary Matting Area (acre) | Permanent Impact Area (acre) |
| W-AGS-002/ EMHT Wetland A | 40.096194 | -82.746209 | Yes | PFO | 1.06 | 40 | 2 | TBD | None | TBD | TBD | TBD | 0.00 |
| W-AGS-003/ EMHT Wetland B* | 40.095875 | -82.745717 | Yes | PFO | 1.32 | 30.5 | 2 | TBD | None | TBD | TBD | TBD | 0.00* |
| W-AGS-004/ EMHT Wetland C | 40.096464 | -82.745782 | Yes | PEM | 0.08 | 31 | 2 | TBD | None | TBD | TBD | TBD | 0.00 |
| W-MRK-004/ EMHT Wetland C* | 40.095431 | -82.747167 | Yes | PEM | 0.25 | 8 | 1 | TBD | None | TBD | TBD | TBD | 0.00* |
| W-MRK-005/ EMHT Wetland D* | 40.096301 | -82.747205 | Yes | PEM | 0.03 | 10 | 1 | TBD | None | TBD | TBD | TBD | 0.00* |
| W-AGS-001 | 40.096213 | -82.746648 | Yes | PEM | 0.06 | 24.5 | 1 | TBD | None | TBD | TBD | TBD | 0.00 |
| Total: | | | | | 2.80 | | | | | | | TBD | 0.00 |

1. * = Wetland previously disturbed or removed as part of other construction activities not associated with the Project. .

3.2 STREAM DELINEATION

During the field survey, AECOM did not identify any streams within the Project survey area (**Figure 3**).

3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs within one watershed, Headwaters Blacklick Creek Watershed (HUC-12: 050600011503), that is designated as 401 WQC Possibly Eligible. OEPA stream eligibility mapping for the Project vicinity is provided on **Figure 4**.

3.3 FEMA 100 YEAR FLOODPLAINS

No regulated FEMA 100-year floodplains and/or floodways are located within the Project survey area.

3.4 PONDS

During the field survey, one pond was observed within the Project survey area (P-AGS-001). This pond was verified as a stormwater detention pond associated with the adjacent construction and development. The extent of this pond is shown on **Figure 3**. Photographs of the delineated pond area provided in **Appendix C**.

3.5 UPLAND DRAINAGE FEATURES PONDS

During the field survey, AECOM identified one upland drainage feature within the Project survey area. The location of the UDF is shown on **Figure 3**. Photographs of the UDF area provided in **Appendix D**

3.6 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. As described in **Table 4**, below, the Project area contains landscaped areas, old fields, urban areas, woodlands, and wetlands/streams. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5**. Representative photographs of the vegetative communities in the Project survey area are provided as **Appendix E**.

TABLE 4 - VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

| Vegetative Community | Description | Approximate Acreage Within the Project Survey Area | Approximate Percentage Within the Project Survey Area |
|-----------------------------|--|---|--|
| Landscaped Areas | Landscaped areas, including commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey area and adjacent areas are frequently mowed grasses and forbs. | 0.85 | 11.50% |
| Old Field | Grassland and/or herbaceous cover alongside roads, field borders, and abandoned fields, as the initial stages of recolonization by plants following disturbance, and are infrequently mowed areas dominated by grasses, forbs, and occasional woody species. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. | 0.81 | 10.94% |
| Urban | Urban areas are areas developed with commercial land uses, including roads, buildings, and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation. | 1.70 | 22.97% |
| Wetlands/Streams | Streams and wetlands were observed both within and beyond the Survey Area for the Project. | 2.08 | 28.11% |
| Woodland | Woodlands (upland, successional-mixed) are present along the Project survey area. Woody species dominating these areas included American sycamore (<i>Platanus occidentalis</i>) and white ash (<i>Fraxinus americana</i>). | 1.96 | 26.48% |
| Totals: | | 7.4 | 100% |

3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

On March 28, 2024, coordination letters were sent to USFWS and the ODNR Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review for potential impacts to threatened and endangered species for a project adjacent to the Project survey area.

Responses were received from the USFWS on April 10, 2024, and from the ODNR on May 3, 2024. According to a response letter received from the USFWS, two federally endangered and one federally proposed bat species was identified within range of the Project area. Regarding state threatened and endangered species that may occur within the Project vicinity, six species were listed by the ODNR. Correspondence letters from the USFWS and ODNR for the Project are included as **Appendix F**.

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

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

| Common Name (Scientific Name) | State Status | Federal Status | Typical Habitat | Habitat Observed | Avoidance Dates | Agency Comments | Potential Impacts |
|---|--------------|----------------|--|---|------------------------|--|---|
| Mammals | | | | | | | |
| Indiana Bat (<i>Myotis sodalis</i>) | Endangered | Endangered | <p><u>Summer habitat</u> During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.</p> | <p><u>Summer habitat</u> Within the Project survey area, trees were identified that may provide suitable habitat for the species.</p> <p><u>Hibernaculum(a)</u> No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project.</p> <p>Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.</p> | April 1 – September 30 | <p><u>Summer habitat</u> ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30).</p> <p><u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.</p> | <p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p> <p><u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.</p> |
| Northern Long-eared Bat (<i>Myotis septentrionalis</i>) | Endangered | Endangered | <p><u>Summer habitat</u> During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.</p> | <p><u>Summer habitat</u> Within the Project survey area, trees were identified that may provide suitable habitat for the species.</p> <p><u>Hibernaculum(a)</u> No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project.</p> <p>Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.</p> | April 1 – September 30 | <p><u>Summer habitat</u> ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30).</p> <p>Additionally, the ODNR indicated that there is a known presence of this species within the Project area and summer surveys would not constitute a presence or absence of this species.</p> <p><u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.</p> | <p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p> <p>Additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat.</p> <p><u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.</p> |
| Little brown bat (<i>Myotis lucifugus</i>) | Endangered | NA | <p><u>Summer habitat</u> During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.</p> | <p><u>Summer habitat</u> Within the Project survey area, trees were identified that may provide suitable habitat for the species.</p> <p><u>Hibernaculum(a)</u> No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project.</p> <p>Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.</p> | April 1 – September 30 | <p><u>Summer habitat</u> ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30).</p> <p><u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.</p> | <p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p> <p><u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.</p> |

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

| Common Name (Scientific Name) | State Status | Federal Status | Typical Habitat | Habitat Observed | Avoidance Dates | Agency Comments | Potential Impacts |
|--|--------------|----------------|--|---|------------------------|--|---|
| Tricolored bat (<i>Perimyotis subflavus</i>) | Endangered | Proposed | <p><u>Summer habitat</u> During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.</p> | <p><u>Summer habitat</u> Within the Project survey area, trees were identified that may provide suitable habitat for the species.</p> <p><u>Hibernaculum(a)</u> No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project.</p> <p>Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.</p> | April 1 – September 30 | <p><u>Summer habitat</u> ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30).</p> <p><u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.</p> | <p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p> <p><u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.</p> |
| Fish | | | | | | | |
| Lake chubsucker (<i>Erimyzon sucetta</i>) | Threatened | None | Perennial Streams | No streams were identified within the Project survey area. | N/A | 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. | No |
| Birds | | | | | | | |
| Northern Harrier (<i>Circus hudsonius</i>) | Endangered | None | Open Grasslands/Wet Meadow Marshes | No – Based on field reviews, the Project survey area does not contain continuous habitat greater than 2-acres; subjected to “edge effect” or increase predation due to proximity of tree lines; and area is highly urbanized/industrial. | April 15 to July 31 | Habitat should be avoided during the bird’s nesting period between April 15 through July 31. Due to the absence of suitable this Project will not likely impact this species. | No |

*2024 Joint Guidance – Refers to the 2024 ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing, a copy of the guidance is provided within **Appendix G** of this memo.

Protected Species Agency Summary –

Based on general observations during the ecological field survey, woodland areas were identified within the Project survey area along the eastern boundary. If tree clearing were to become part of the Project scope of work, the ODNR and the USFWS recommends implementations of seasonal tree clearing between October 1 and March 31 to avoid adverse effects to Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. ODNR confirmed a known presence in the vicinity of the Project area for the northern long-eared bat. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for the little brown bat, Indiana bat and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project survey area for the Northern long-eared bat. If summer tree clearing is needed, additional coordination will be completed with the ODNR and the USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2024 Ohio ODNR DOW and the USFWS Joint Guidance for Bat Surveys and Tree Clearing within 0.25 miles of the Project area and no caves, mines, and/or karst features were identified. As per ODNR and USFWS guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment finds potential habitat within 0.25 miles of the Project survey area. Therefore, no further coordination is necessary with either the ODNR and/or the USFWS regarding the listed bat species. Results of the desktop habitat assessment are included in **Figure 6**.

No impacts are anticipated to occur any fish species as no in-water work is proposed as part of the Project. Additionally, the ODNR noted that the Project is within the range of the northern harrier; however, AECOM ecologist and approved avian specialist concluded an absence of this species nesting habitat within the Project survey area. According to ODNR, open grasslands and wet meadow marshes, of at least 2-acres, is considered nesting habitat for the northern harrier. Based on field and desktop review, the Project survey area primarily consists of existing transmission line ROW, dominated by urban habitat that is bordered tightly by woodlands, agricultural fields, and Jug Station. No open grasslands or wet meadow marshes are present. Although the Project area abuts a larger field that may meet the ODNR requirement for size (>2-acres), this area possesses limiting factors, such as proximity to heavily forested areas, roadways, and proximity to commercial areas, thus excluding it from the consideration of potential habitat. Therefore, there is no suitable nesting habitat within the Project survey area and no further coordination regarding this listed species is necessary concerning this Project.

4.0 SUMMARY

The ecological survey of the Project survey area identified six wetlands (four PEM, and two PFO). AECOM identified one new wetland and confirmed the boundary of four previously delineated wetlands (W-AGS-002 / EMHT Wetland A, W-AGS-003 / EMHT Wetland B, W-AGS-004 / EMHT Wetland C and W-MRK-005 / EMHT Wetland D) and extended the boundary of one previously delineated wetland (W-MRK-004 / EMHT Wetland C) within the Project study area. The previously delineated wetlands (W-AGS-003 / EMHT Wetland B, W-MRK-004 / EMHT Wetland C, and W-MRK-005 / EMHT Wetland D) have been disturbed as part of other construction activities not associated with the Project. One pond and one upland drainage feature were identified within the Project survey area. No streams were observed.

The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey area provided in **Figure 3**. Areas that fall outside of the Project survey area were not evaluated in the field and not included in the reporting of the survey.

Of the six state and/or federally listed threatened and endangered species within range of the Project survey area, none of the bird or fish species as well as their critical habitat were identified. However, due to the potential for suitable bat habitat identified within the Project survey area, if tree clearing activities are required outside of the seasonal restriction of October 1 through March 31, additional coordination with the ODNR and USFWS is required to avoid adverse effects to the listed bat species.

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

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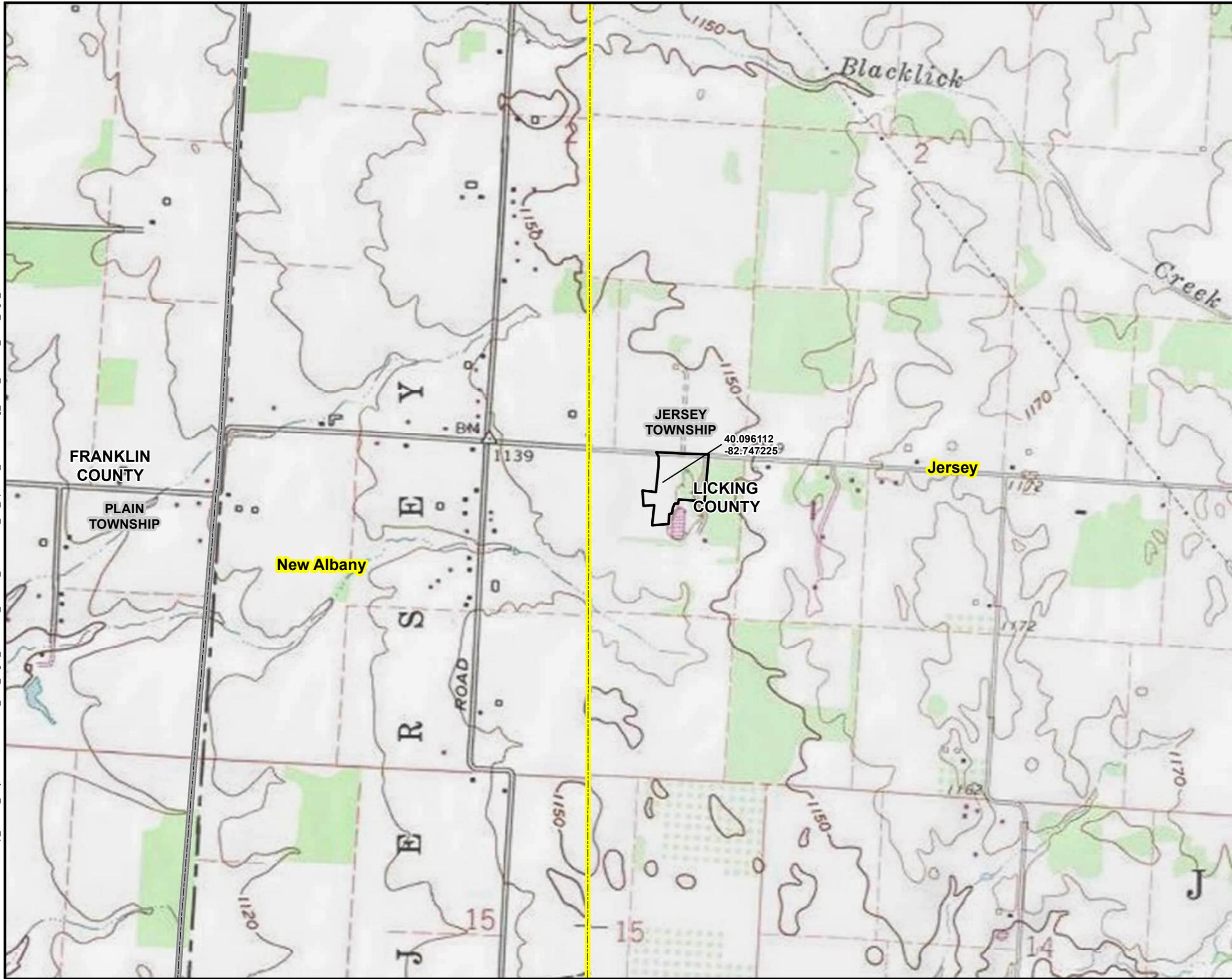
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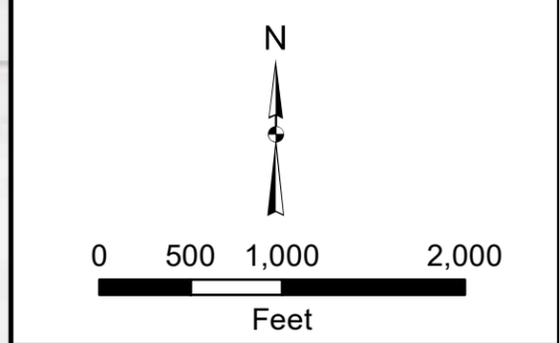
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Legend

- AECOM Project Survey Area
- Township Boundary
- County Boundary
- Ohio USGS 7.5' Topographic Quadrangle



Jug Street TransCo Work Project

FIGURE 1
PROJECT OVERVIEW

| | |
|-------------------|---------------------|
| DATE: 12/26/2024 | 1 INCH = 1,000 FEET |
| CREATED BY: KK | CHECKED BY: BJM |
| JOB NO.: 60727735 | AECOM |

Date Saved: 12/26/2024
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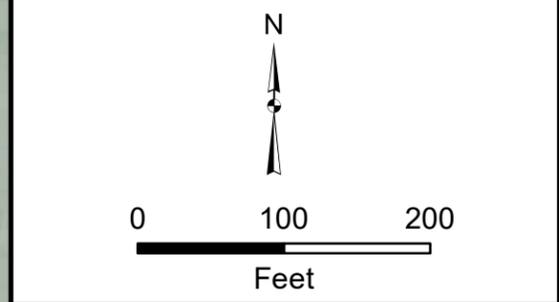


Legend

- ▲ AECOM Wetland Data Point
- ▲ AECOM Upland Data Point
- Proposed Structure
- Proposed Centerline
- AECOM Delineated Upland Drainage Feature
- EMHT Permitted Permanent Wetland Impact (DSW401228280W)
- EMHT Delineated Wetlands
- Delineated PFO Wetland
- Delineated PEM Wetland
- Delineated Pond
- AECOM Project Survey Area
- EMHT Survey Area JD: LRH-2020-879-SCR
- EMHT Survey Area JD: LRH-2022-38-SCR
- NWI Wetland (USFWS)
- Township Boundary
- County Boundary
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BeA—Bennington silt loam, 0 to 2 percent slopes
 BeB—Bennington silt loam, 2 to 6 percent slopes
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



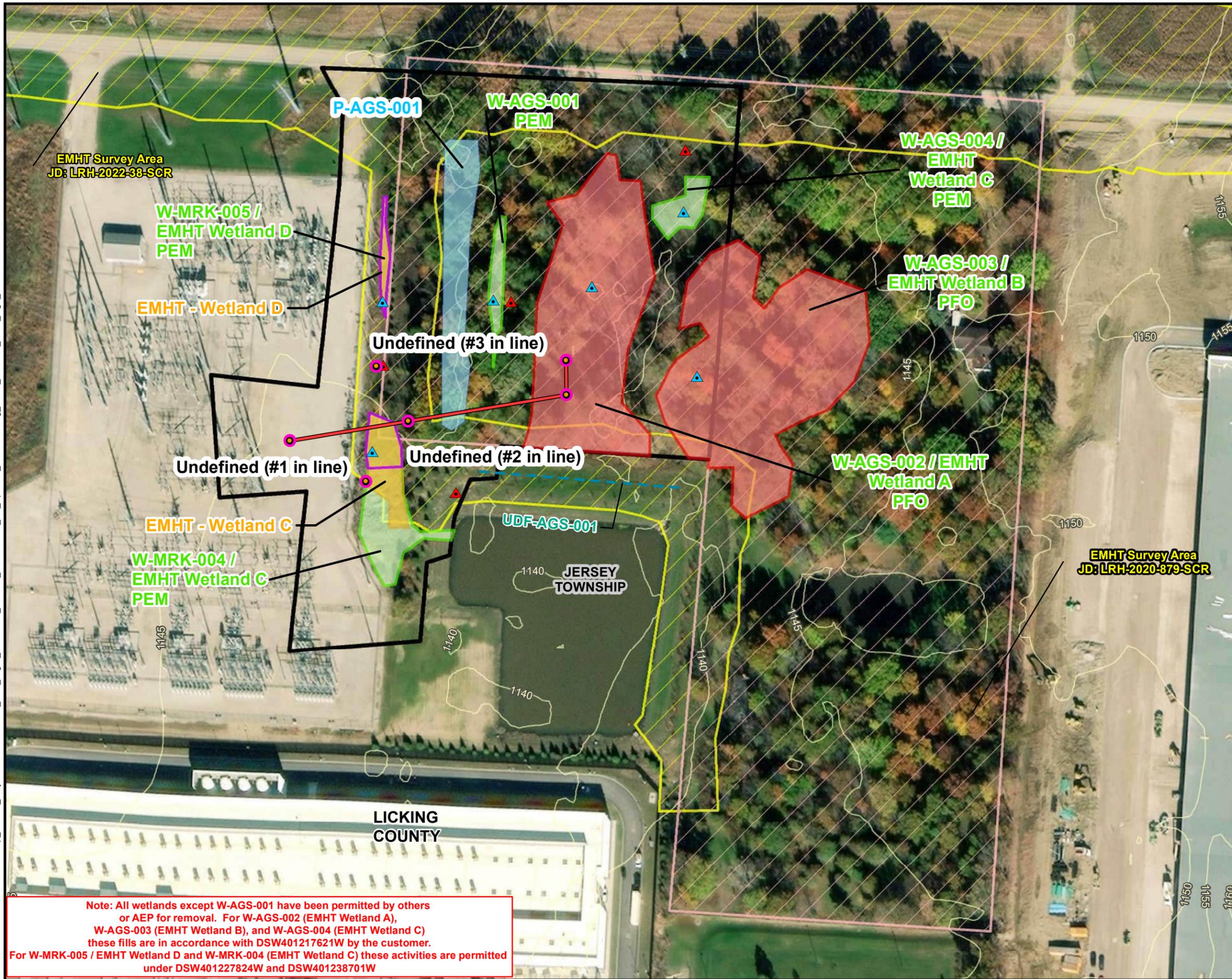
AMERICAN ELECTRIC POWER
 Jug Street TransCo Work Project

**FIGURE 2
 SOIL MAP AND
 NATIONAL WETLAND INVENTORY MAP**

| | |
|-------------------|-------------------|
| DATE: 12/26/2024 | 1 INCH = 125 FEET |
| CREATED BY: KK | CHECKED BY: BJM |
| JOB NO.: 60727735 | AECOM |

Note: All wetlands except W-AGS-001 have been permitted by others or AEP for removal. For W-AGS-002 (EMHT Wetland A), W-AGS-003 (EMHT Wetland B), and W-AGS-004 (EMHT Wetland C) these fills are in accordance with DSW401217621W by the customer. For W-MRK-005 / EMHT Wetland D and W-MRK-004 (EMHT Wetland C) these activities are permitted under DSW401227824W and DSW401238701W

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Legend

- Proposed Structure
- AECOM Wetland Data Point
- AECOM Upland Data Point
- Proposed Centerline
- AECOM Delineated Upland Drainage Feature
- Contour (5-Ft)
- Delineated PFO Wetland
- Delineated PEM Wetland
- EMHT Delineated Wetlands
- Delineated Pond
- EMHT Permitted Permanent Wetland Impact (DSW401228280W)
- AECOM Project Survey Area
- EMHT Survey Area JD: LRH-2020-879-SCR
- EMHT Survey Area JD: LRH-2022-38-SCR
- Township Boundary
- County Boundary

0 100 200
Feet

N

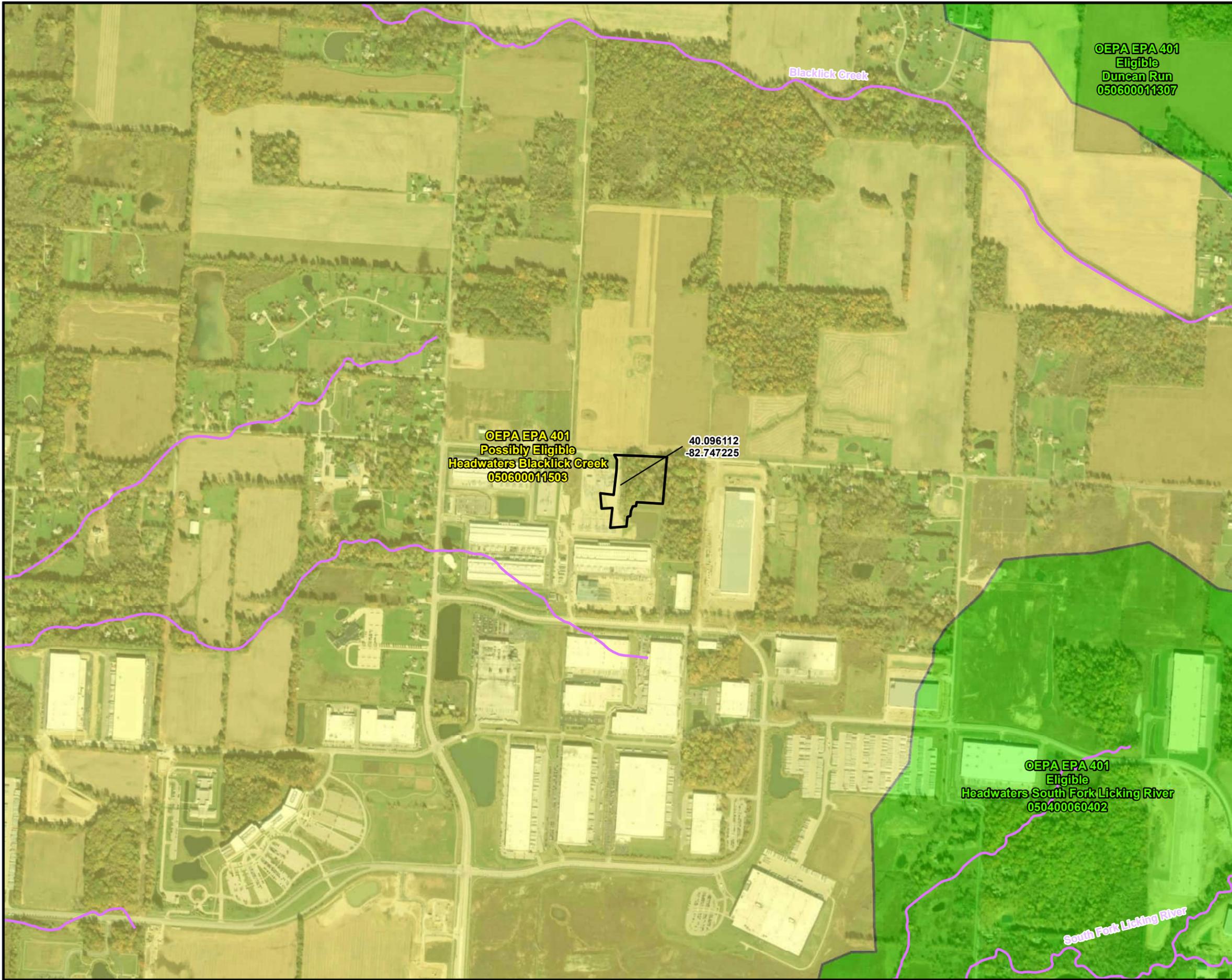
AMERICAN ELECTRIC POWER

Jug Street TransCo Work Project

| | |
|--|-------------------|
| FIGURE 3 WETLAND DELINEATION AND STREAM ASSESSMENT MAP | |
| DATE: 12/26/2024 | 1 INCH = 125 FEET |
| CREATED BY: KK | CHECKED BY: BJM |
| JOB NO.: 60727735 | AECOM |

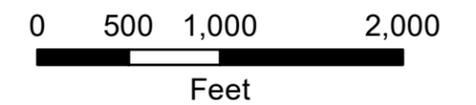
Note: All wetlands except W-AGS-001 have been permitted by others or AEP for removal. For W-AGS-002 (EMHT Wetland A), W-AGS-003 (EMHT Wetland B), and W-AGS-004 (EMHT Wetland C) these fills are in accordance with DSW401217621W by the customer. For W-MRK-005 / EMHT Wetland D and W-MRK-004 (EMHT Wetland C) these activities are permitted under DSW401227824W and DSW401238701W

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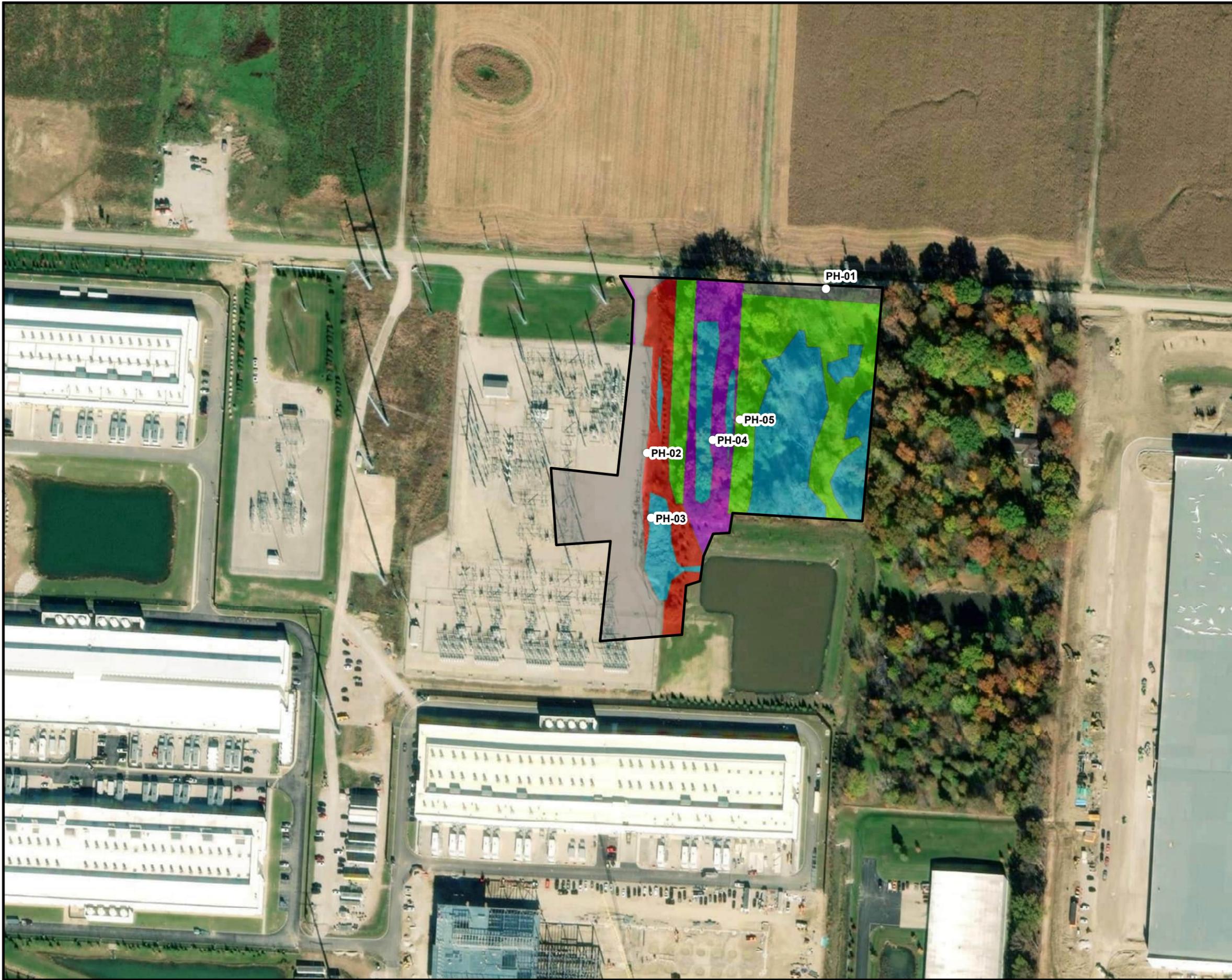
- NHD Stream (USGS)
- AECOM Project Survey Area
- OEPA Eligibility:**
 - Eligible
 - Possibly Eligible



Jug Street TransCo Work Project

FIGURE 4
STREAM ELIGIBILITY MAP

| | |
|-------------------|---------------------|
| DATE: 12/26/2024 | 1 INCH = 1,000 FEET |
| CREATED BY: KK | CHECKED BY: BJM |
| JOB NO.: 60727735 | AECOM |



Legend

- Photo Location
- ▭ AECOM Project Survey Area

Vegetative Community Type

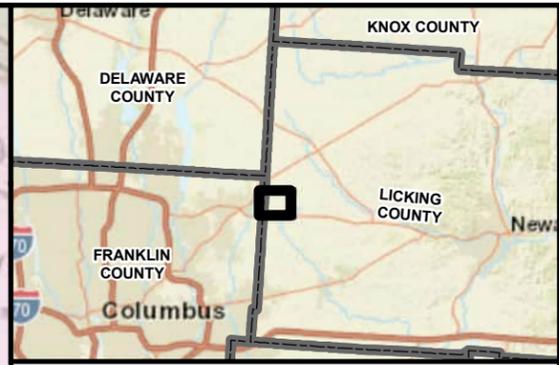
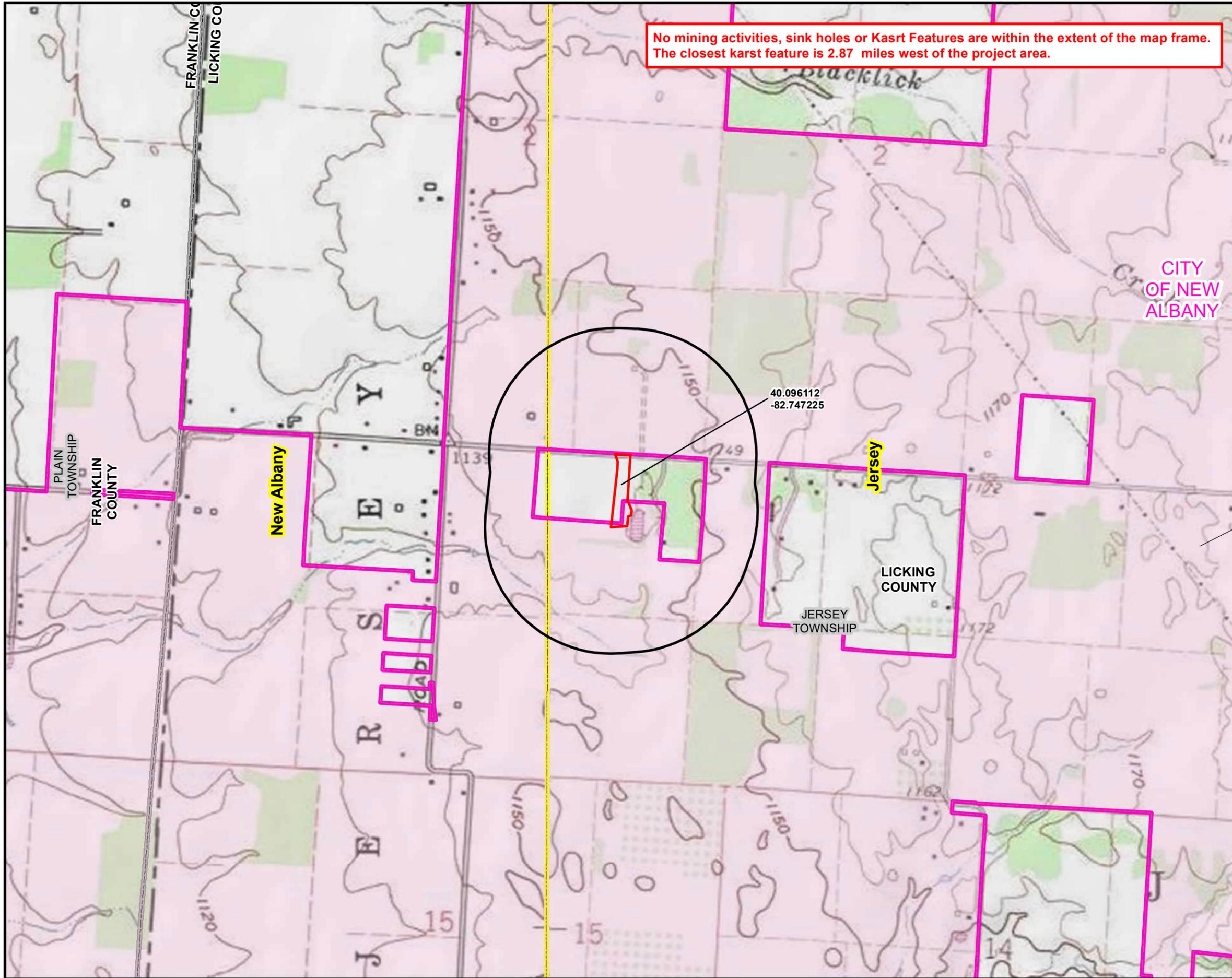
- Landscaped
- Old Field
- Streams/Wetlands
- Urban
- Woodland

0 100 200 400
Feet

N

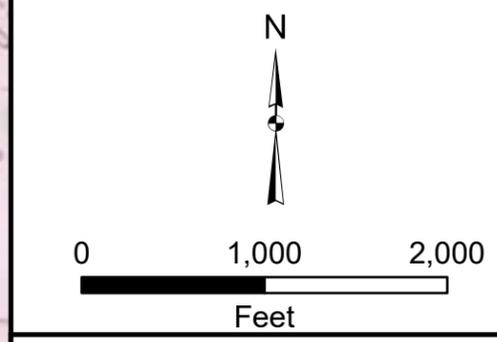
 Jug Street TransCo Work Project

| | |
|--|-------------------|
| FIGURE 5 VEGETATION COMMUNITIES MAP | |
| DATE: 12/26/2024 | 1 INCH = 200 FEET |
| CREATED BY: KK | CHECKED BY: BJM |
| JOB NO.: 60727735 | AECOM |



Legend

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



 *Jug Street Trans Co Project*

| | |
|---|---------------------|
| FIGURE 6 DESKTOP ASSESSMENT FOR WINTER BAT HAPITAT MAP | |
| DATE: 3/25/2024 | 1 INCH = 1,000 FEET |
| CREATED BY: CJT | CHECKED BY: AF |
| JOB NO.: 60727735 | AECOM |

APPENDIX A

**UNITED STATES ARMY CORPS OF ENGINEERS (USACE) JURISDICTIONAL DETERMINATION
(LRH-2022-879-SCR AND LRH-2022-38-SCR), SECTION 401 APPROVAL (DSW401217621W AND
DSW401227824W)**



Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By:  Date: _____

2/14/2022

**Flint Grid Battery Energy Storage
System Project
Permit - Intermediate
Approval
401 Wetlands
Licking
DSW401217621W**

February 14, 2022

Justin Adams
Flint Grid, LLC
988 Howard Ave, Ste 200
Burlingame, CA 94010
jadams@ablegridenergy.com

Subject: Flint Grid Battery Energy Storage System Project
Licking County / Jersey Township
Grant of a Level Two Isolated Wetland Permit
Ohio EPA ID No. 217621W

Dear Stakeholders:

I hereby authorize the above referenced project under the following authorities, and it is subject to the following modifications and/or conditions:

Ohio Isolated Wetland Permit

Pursuant to Ohio Revised Code Chapter 6111, I hereby conclude that the above-referenced project will comply with the applicable provisions of Ohio Revised Code Sections 6111.02 through 6111.028. This authorization is specifically limited to an Ohio Isolated Wetlands Permit (here after referred to as "permit") with respect to water pollution and does not relieve the Permittee of further Certifications or Permits as may be necessary under the law. I have determined that a lowering of water quality in the Upper Scioto watershed (HUC 05060001) as authorized by this permit is necessary. I have made this determination based upon the consideration of all public comments, if submitted, and the requirements set forth in Ohio Revised Code Sections 6111.02 through 6111.028.

PART II ON-SITE WATER RESOURCES AND IMPACTS

A. Watershed Setting

The Flint Grid Battery Energy Storage System Project is located within the Headwaters Blacklick Creek watershed (050600011503), which has an area of 48.88 square miles. There are no Aquatic Life Use designations on-site; other Aquatic Life Use designations within the Headwaters Blacklick Creek watershed include Warmwater Habitat.

B. Project Description

The project consists of a proposed industrial facility on an approximate 15-acre site.

C. Impacts

Impacts to isolated wetlands are as follows:

| Wetland ID | Isolated or Non-isolated? | Forested or Non-Forested | Category | Total Acreage on Site | Total Acreage Impacted | Percent Avoided |
|---------------|---------------------------|--------------------------|----------|-----------------------|------------------------|-----------------|
| Wetland A | Isolated | Forested | 2 | 1.06 | 1.06 | 0 |
| Wetland B | Isolated | Forested | 2 | 1.32 | 1.32 | 0 |
| Wetland C | Isolated | Non-Forested | 2 | 0.08 | 0.08 | 0 |
| Wetland D | Isolated | Forested | 2 | 0.15 | 0.15 | 0 |
| Totals | | | | 2.61 | 2.61 | 0 |

PART III TERMS & CONDITIONS

- A. Terms and conditions outlined in this section apply to project as described in this permit.
- B. This permit shall be valid for a period of 5 years from the date of issuance.
- C. The Permittee shall notify Ohio EPA, in writing, and in accordance with *Part IV (NOTIFICATIONS TO OHIO EPA)* of this permit, upon the start and completion of site development construction.
- D. A copy of this permit shall remain on-site for the duration of the project construction activities.

- E. In the event of an inadvertent spill, the Permittee must immediately call the Ohio EPA Spill Hotline at 1-800-282-9378, as well as the Ohio EPA Section 401 Manager (614-644-2001).
- F. Unpermitted impacts to surface water resources and/or their buffers occurring as a result of this project must be reported within 24 hours of occurrence to Ohio EPA, Division of Surface Water, Section 401 Manager (614-644-2001), for further evaluation.
- G. Pesticide application(s) for the control of plants and animals shall be applied in accordance with the NPDES General Permit to Discharge Pesticides In, Over or Near Waters of the State available at: https://epa.ohio.gov/static/Portals/35/permits/OHG870002_FINAL_PERMIT.pdf and may require a pesticide applicator license from the Ohio Department of Agriculture.
- H. Any authorized representative of the director shall be allowed to inspect the authorized activity at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.
- I. In the event that there is a conflict between the permit application, and the conditions within this permit, the condition shall prevail unless Ohio EPA agrees, in writing, that the permit application or other provision prevails.
- J. The Permittee shall provide electronic maps of the development area to Ohio EPA 401 WQC and Isolated Wetland Permitting Section within 30 days of the date of this permit. When sending the electronic files, include the Ohio EPA ID Number and the Army Corps of Engineers Number (if applicable). If possible, these electronic maps shall be GIS shape files or Geodatabase files. If this is not possible, the electronic maps shall be in another electronic format readable in GIS (GIF, TIF, etc). The electronic files shall be sent to the following e-mail address: EPA.401Webmail@epa.ohio.gov

If the files are too large to send by e-mail (over 25 MB), a disk containing the electronic files shall be mailed to the following address:

Ohio Environmental Protection Agency
Division of Surface Water
Attn: 401 Section Manager
50 West Town Street, Suite 700
PO Box 1049
Columbus, OH 43216-1049

- K. This proposal may require other permits from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office as follows:

Ohio Environmental Protection Agency
Central District Office
50 W. Town Street, Suite 700
Columbus, Ohio 43215-1049
614-728-3778

Additional information regarding environmental permitting assistance at Ohio EPA can be found at <https://epa.ohio.gov/wps/portal/gov/epa/stay-compliant/get-help/permit-assistance>

- L. Best Management Practices (BMPs)
1. All water resources and their buffers which are to be avoided shall be clearly indicated on site drawings, demarcated in the field and protected with suitable materials (e.g., silt fencing) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process.
 2. All BMPs for stormwater management shall be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources Rainwater and Land Development Manual, unless otherwise required by the National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction activities (construction general permit), if required.

A copy of the Rainwater and Land Development Manual is available at:
<https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development>

A copy of the NPDES construction general permit is available at:
https://epa.ohio.gov/static/Portals/35/permits/OHC000005/Final_OHC000005.pdf
 3. Straw bales shall not be used as a form of erosion/sediment control.
 4. Fill material shall consist of suitable non-erodible material and shall be stabilized to prevent erosion.
 5. Materials used for fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection.

6. Concrete rubble used for fill or bank stabilization shall be in accordance with ODOT specifications; free of exposed re-bar; and, free of all debris, soil and fines.
7. Chemically treated lumber which may include, but is not limited to, chromated copper arsenate (CCA) and creosote treated lumber shall not be used in structures that come into contact with waters of the state.

PART III MITIGATION

A. Description of Required Mitigation

As mitigation for 2.61 acres of wetland impact including 0.08 acre of Category 2 non-forested wetland impact and 2.53 acres of Category 2 forested wetland impacts, the permittee shall purchase 0.2 acre of non-forested wetland credits and 6.4 acres of forested wetland credits from Stream + Wetland Foundation In-Lieu Fee program located in the Corps Huntington District within the Upper Scioto watershed (05060001).

B. Timing of Mitigation Requirements

1. Within 30 days of the date of permit, a copy of the fully executed in-lieu fee program agreement with Stream + Wetlands Foundation shall be provided to Ohio EPA. **Impacts to waters of the state shall not occur until the terms of this condition have been met.**

C. Reporting

1. Annual Update Reports

A project construction update report shall be submitted to Ohio EPA by December 31 of each year following the date of this permit and until project construction is complete. Each update report shall contain, at a minimum, the following information:

- a. The status of the filling activities at the development site including dates filling was started and completed, or are expected to be started and completed. If filling activities have not been completed, a drawing shall be provided, which shows the locations and acreage/feet of wetlands/streams that have not yet been filled. If filling activities have been completed, then as-built drawings shall be submitted, which show where fill was placed.

- b. Current contact information for all responsible parties including phone number, e-mail, and mailing addresses. For the purposes of this condition, responsible parties include, but may not be limited to the Permittee, consultant, and project construction manager.
- c. As-built drawings sized 11" by 17" (to scale) of each of the construction areas, once construction is complete.

PART IV NOTIFICATIONS TO OHIO EPA

All notifications, correspondence, and reports regarding this permit shall reference the following information:

Permittee Name: Flint Grid, LLC
Project Name: Flint Grid Battery Energy Storage System Project
Ohio EPA ID No.: 217621W

and shall be sent to:

Ohio Environmental Protection Agency
Division of Surface Water, 401/IWP Unit
Lazarus Government Center
50 West Town Street
P.O. Box 1049
Columbus, Ohio 43216-1049

You are hereby notified that this action of the director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within 30 days after notice of the director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Treasurer, State of Ohio," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the director within three days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, Ohio 43215

Sincerely,



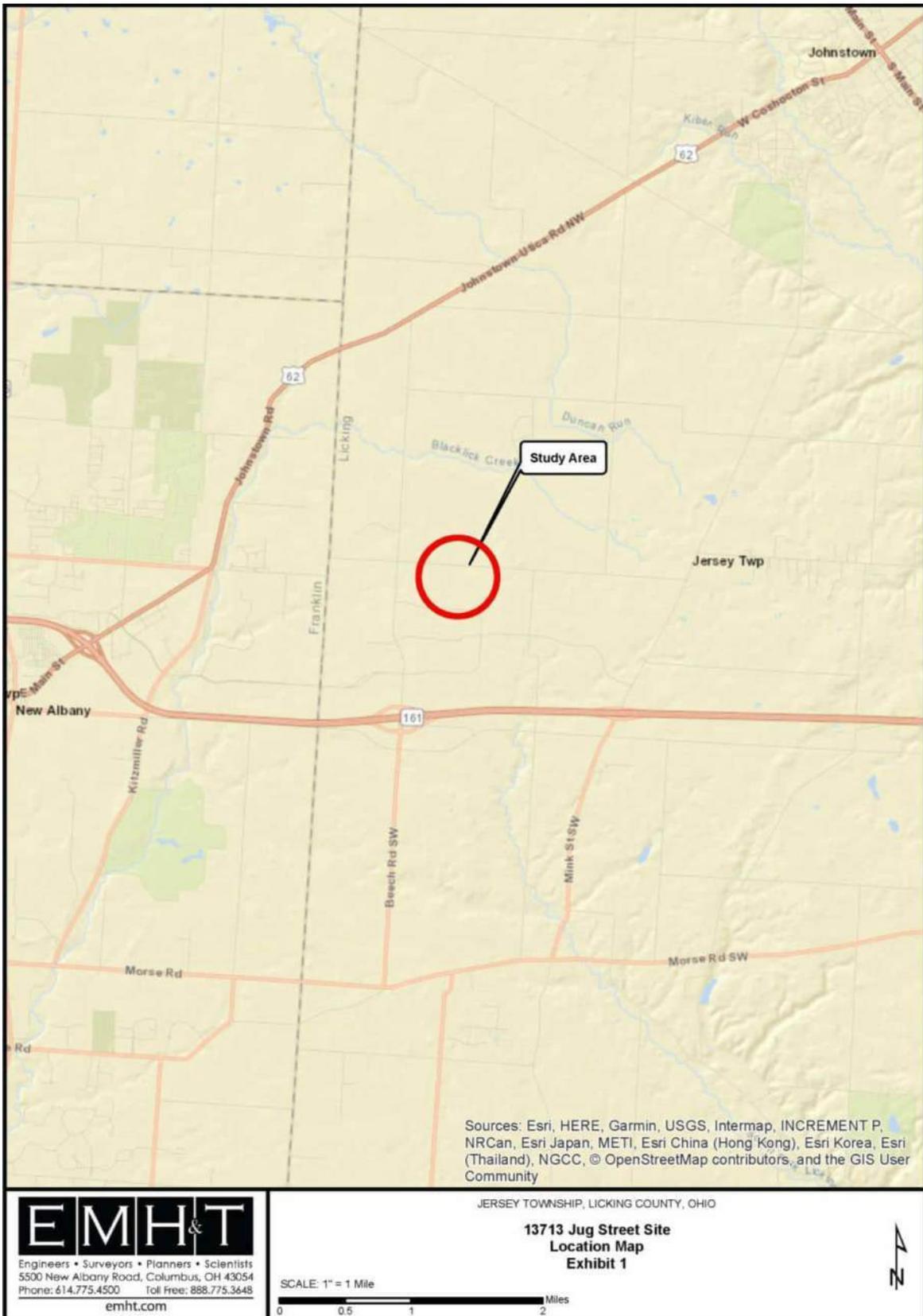
Laurie A. Stevenson
Director

ec: Cecil Cox, Cecil.M.Cox@usace.army.mil, Department of the Army,
Huntington District, Corps of Engineers
Wes Barnett, wes.barnett@usace.army.mil, Department of the Army,
Huntington District, Corps of Engineers
Candice Bauer, bauer.candice@epa.gov, U.S. EPA, Region 5
Dana Rzeznik, rzeznik.dana@epa.gov, U.S. EPA, Region 5
Patrice Ashfield, Ohio@fws.gov, U.S. Fish & Wildlife Service
Mike Pettegrew, Mike.Pettegrew@dnr.state.oh.us, ODNR, Office of Real Estate
Diana Welling, dwelling@ohiohistory.org, Ohio Historical Preservation Office
Matt Lamoreaux, Matthew.Lamoreaux@epa.ohio.gov, Ohio EPA, DSW,
401/Wetlands/Mitigation Section
Andrea Kilbourne, Andrea.Kilbourne@epa.ohio.gov, Ohio EPA, DSW,
Mitigation Coordinator
Mike Gallaway, Michael.Gallaway@epa.ohio.gov, Ohio EPA, DSW CDO
Vince Messerly, vmesserly@streamandwetlands.org, Stream + Wetlands
Foundation
Patrick Hoyng, phoyng@emht.com, EMH&T

Attachment: Site Location Map (project)

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at <http://www.surveymonkey.com/s/ohioepacustomersurvey>.

Attachment 1
Ohio EPA ID 217621W
Site Location Map





March 15, 2024

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By:  Date: 03/15/2024

TRANSMITTED ELECTRONICALLY

Jennifer Walker
AEP Ohio Transmission Company, Inc.
8500 Smith Mill Road
New Albany, OH 45054
jlwalker2@aep.com

**Re: Jug Street Station
Permit - Intermediate
Approval
401 Wetlands
Licking
DSW401238701W**

Subject: Jug Street Station
Licking County / New Albany
Grant of a Level Two Isolated Wetland Permit
Ohio EPA ID No. 238701W

Dear Stakeholders:

I hereby authorize the above referenced project under the following authorities, and it is subject to the following modifications and/or conditions:

Ohio Isolated Wetland Permit

Pursuant to Ohio Revised Code Chapter 6111, I hereby conclude that the above-referenced project will comply with the applicable provisions of Ohio Revised Code Sections 6111.02 through 6111.028. This authorization is specifically limited to an Ohio Isolated Wetlands Permit (here after referred to as "permit") with respect to water pollution and does not relieve the Permittee of further Certifications or Permits as may be necessary under the law. I have determined that a lowering of water quality in the Upper Scioto watershed (HUC 05060001) as authorized by this permit is necessary. I have made this determination based upon the consideration of all public comments, if submitted, and the requirements set forth in Ohio Revised Code Sections 6111.02 through 6111.028. In accordance with ORC Section 6111.021(C), this permit shall serve as the state's 401 water quality certification to the extent that any of these waters are deemed jurisdictional under the Federal Water Pollution Control Act.

PART I ON-SITE WATER RESOURCES AND IMPACTS

A. Watershed Setting

The watershed in which this project is located, Headwaters Blacklick Creek (HUC 05060001-15-04), has an area of 48.9 square miles. Blacklick Creek is a warmwater habitat (WWH) stream and primary contact recreation water.

B. Project Description

The proposed project consists of several upgrade and maintenance projects on the Jug Street Station property along with rerouting the existing distribution line located on the property to accommodate equipment upgrades.

C. Impacts

Impacts to isolated wetlands are as follows:

1.33 acres of five (5) non-forested, category 1 isolated wetlands are proposed for impact. These wetlands will be filled in order to accommodate the upgrade and maintenance projects proposed for the property.

| Wetland ID | Isolated or Non-isolated? | Forested or Non-Forested | Category | Total Acreage on Site | Total Acreage Impacted | Percent Avoided |
|------------|---------------------------|--------------------------|----------|-----------------------|------------------------|-----------------|
| Wetland 1 | Isolated | Non-Forested | 1 | 0.07 | 0.07 | 0% |
| Wetland 2 | Isolated | Non-Forested | 1 | 0.27 | 0.27 | 0% |
| Wetland 3 | Isolated | Non-Forested | 1 | 0.67 | 0.67 | 0% |
| Wetland 4 | Isolated | Non-Forested | 1 | 0.23 | 0.23 | 0% |
| Wetland 6 | Isolated | Non-Forested | 1 | 0.09 | 0.09 | 0% |
| Totals | | | | 1.33 | 1.33 | 0% |

PART II TERMS & CONDITIONS

A. Terms and conditions outlined in this section apply to project and mitigation construction as described in this permit.

B. This permit shall be valid for a period of 5 years from the date of issuance.

- C. The Permittee shall notify Ohio EPA, in writing, and in accordance with *Part IV (NOTIFICATIONS TO OHIO EPA)* of this permit, upon the start and completion of site development and mitigation construction.
- D. A copy of this permit shall remain on-site for the duration of the project and mitigation construction activities.
- E. In the event of an inadvertent spill, the Permittee must immediately call the Ohio EPA Spill Hotline at 1-800-282-9378, as well as the Ohio EPA Section 401 Manager (614-644-2001).
- F. Unpermitted impacts to surface water resources and/or their buffers occurring as a result of this project must be reported within 24 hours of occurrence to Ohio EPA, Division of Surface Water, Section 401 Manager (614-644-2001), for further evaluation.
- G. Pesticide application(s) for the control of plants and animals shall be applied in accordance with the NPDES General Permit to Discharge Pesticides In, Over or Near Waters of the State available at: https://epa.ohio.gov/static/Portals/35/permits/OHG870002_FINAL_PERMIT.pdf and may require a pesticide applicator license from the Ohio Department of Agriculture.
- H. Any authorized representative of the director shall be allowed to inspect the authorized activity at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.
- I. In the event that there is a conflict between the permit application, including the mitigation plan, and the conditions within this permit, the condition shall prevail unless Ohio EPA agrees, in writing, that the permit application or other provision prevails.
- J. The Permittee shall provide electronic maps of the development area and the mitigation area to Ohio EPA 401 WQC and Isolated Wetland Permitting Section within 30 days of the date of this permit. When sending the electronic files, include the Ohio EPA ID Number and the Army Corps of Engineers Number (if applicable). If possible, these electronic maps shall be GIS shape files or Geodatabase files. If this is not possible, the electronic maps shall be in another electronic format readable in GIS (GIF, TIF, etc). The electronic files shall be sent to the following e-mail address: EPA.401Webmail@epa.ohio.gov. If the files are too large to send by e-mail (over 25 MB), they shall be sent using the following file share link: <https://fileshare.epa.ohio.gov/filedrop/401Wetlands>.

- K. This proposal may require other permits from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office as follows:

Ohio Environmental Protection Agency
Central District Office
50 W. Town Street, Suite 700
Columbus, Ohio 43215-1049
614-728-3778

Additional information regarding environmental permitting assistance at Ohio EPA can be found at <https://epa.ohio.gov/wps/portal/gov/epa/stay-compliant/get-help/permit-assistance>

- L. Best Management Practices (BMPs)

1. All water resources and their buffers which are to be avoided shall be clearly indicated on site drawings, demarcated in the field and protected with suitable materials (e.g., silt fencing) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process.
2. All BMPs for stormwater management shall be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources Rainwater and Land Development Manual, unless otherwise required by the National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction activities (construction general permit), if required.

A copy of the Rainwater and Land Development Manual is available at:
<https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development>

A copy of the NPDES construction general permit is available at:
<https://epa.ohio.gov/static/Portals/35/permits/OHC000005.pdf>

3. Straw bales shall not be used as a form of erosion/sediment control.
4. Fill material shall consist of suitable non-erodible material and shall be stabilized to prevent erosion.

5. Materials used for fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection.
6. Concrete rubble used for fill or bank stabilization shall be in accordance with ODOT specifications; free of exposed re-bar; and, free of all debris, soil and fines.
7. Chemically treated lumber which may include, but is not limited to, chromated copper arsenate (CCA) and creosote treated lumber shall not be used in structures that come into contact with waters of the state.
8. Trees removed from temporary impact areas to facilitate construction shall be replaced with appropriate tree species native to Ohio.

M. Wildlife Protection

1. In the event that an eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) is encountered during construction of the project, work should immediately cease and the Ohio Department of Natural Resources, Division of Wildlife contacted. Caution should be employed during construction and during the snakes' active season (March 15 - November 15).

PART III MITIGATION

A. Description of Required Mitigation

As mitigation for impacts to 1.33 acres of non-forested Category 1 wetlands, the certification holder has purchased 3.4 wetland mitigation credits from Green Camp Wetland Mitigation Bank located in Marion County within the Upper Scioto watershed (HUC 05060001). Per the submitted mitigation plan, 2.7 credits will be used to fulfill the mitigation requirements of this project and the remaining 0.7 credit will be retained by the applicant for future use.

B. Reporting

1. Annual Update Reports

A project update report shall be submitted to Ohio EPA by December 31 of each year following the date of this permit and until project construction is complete. Each update report shall contain, at a minimum, the following information:

- a. The status of the filling activities at the development site including dates filling was started and completed, or are expected to be started and completed. If filling activities have not been completed, a drawing shall be provided, which shows the locations and acreage/feet of wetlands/streams that have not yet been filled. If filling activities have been completed, then as-built drawings shall be submitted, which show where fill was placed.
- b. Current contact information for all responsible parties including phone number, e-mail, and mailing addresses. For the purposes of this condition, responsible parties include, but may not be limited to the permittee, consultant, and project construction manager.
- c. As-built drawings sized 11" by 17" (to scale) of each of the construction areas, once construction is complete.

PART IV NOTIFICATIONS TO OHIO EPA

All notifications and reports regarding this certification shall be uploaded using the "View Compliance" action for the corresponding certification and/or permit through the 401 service in [Ohio EPA eBusiness Center](#).

You are hereby notified that this action of the director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within 30 days after notice of the director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Treasurer, State of Ohio," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the director within three

days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, Ohio 43215

Sincerely,



Anne M. Vogel
Director

ec: Andrew Wendt, Department of the Army, Huntington District, Corps of Engineers,
andrew.j.wendt@usace.army.mil
Wes Barnett, wes.barnett@usace.army.mil, Department of the Army, Huntington
District, Corps of Engineers
U.S. EPA, Region 5, R5Wetlands@epa.gov
Patrice Ashfield, Ohio@fws.gov, U.S. Fish & Wildlife Service
Mike Pettegrew, Mike.Pettegrew@dnr.state.oh.us, ODNR, Office of Real Estate
Diana Welling, section106@ohiohistory.org, Ohio Historical Preservation Office
Andrew Graves, Andrew.Graves@epa.ohio.gov, Ohio EPA, DSW,
401/Wetlands/Mitigation Section
Rachel Secrest, Rachel.Secrest@epa.ohio.gov, Ohio EPA, DSW,
401/Wetlands/Mitigation Section
Andrea Kilbourne, Andrea.Kilbourne@epa.ohio.gov, Ohio EPA, DSW,
Mitigation Coordinator
Chloe Welch, Chloe.Welch@epa.ohio.gov, Ohio EPA, CDO, DSW
Cal Miller, wetlandsresource@aol.com, The Wetlands Resource Center
Amy Toohey, ajtoohey@aep.com, AEP Ohio Transmission Company, Inc.

Attachments: Project Impact Map
Site Location Map (project)

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at <http://www.surveymonkey.com/s/ohioepacustomersurvey>.

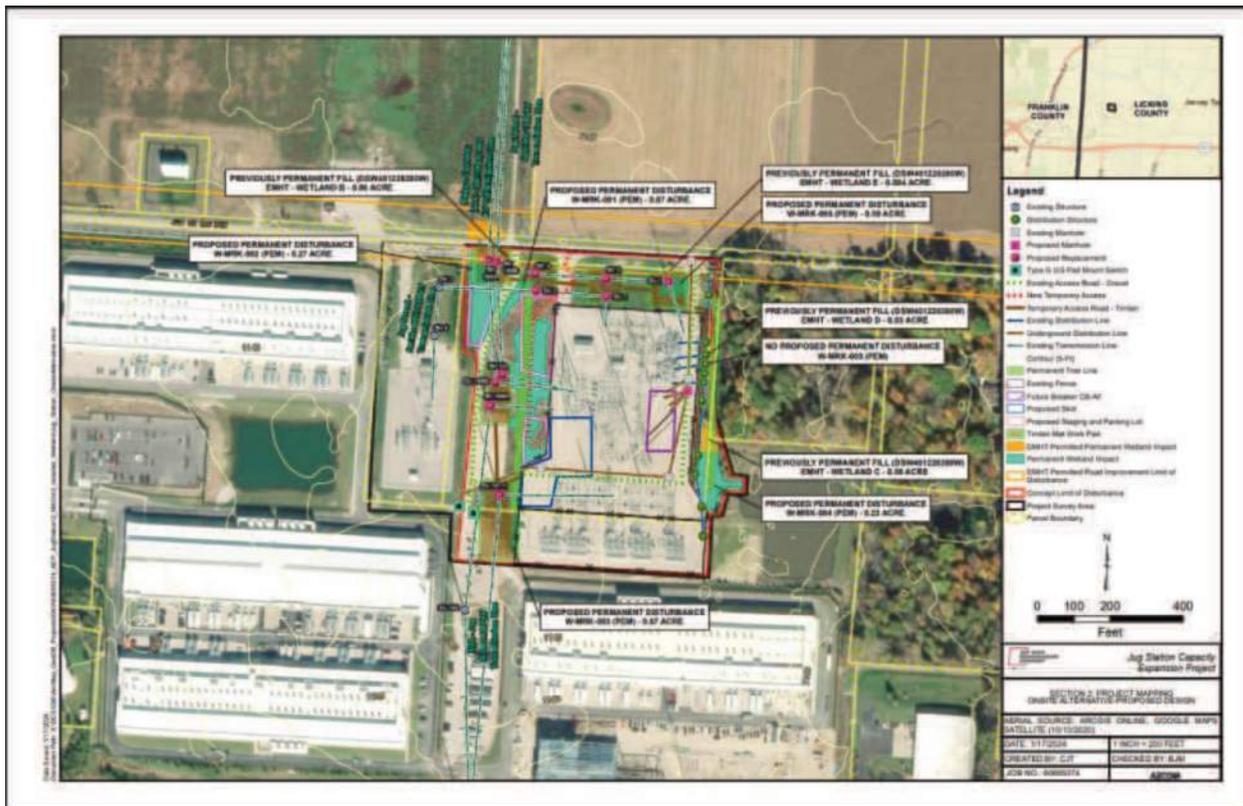


Figure 1: Project Impact Map

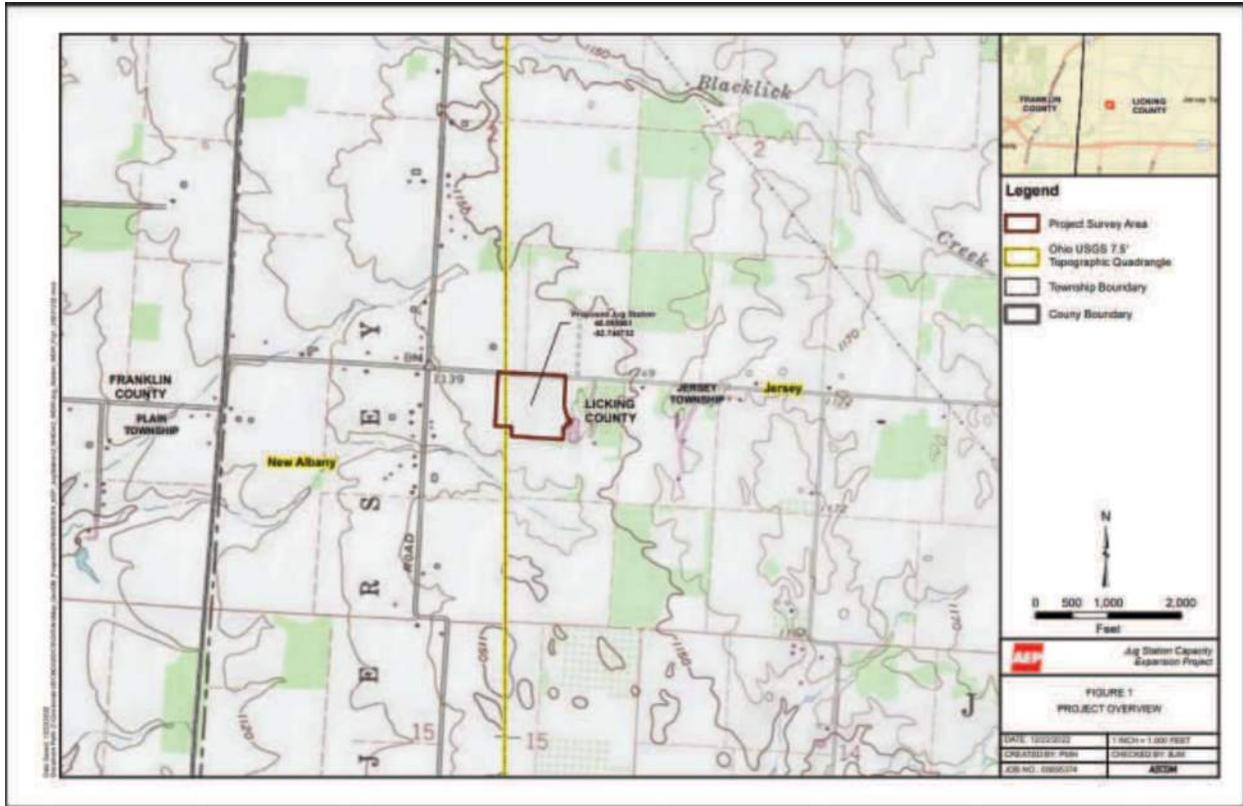


Figure 2: Project Location Map



REPLY TO

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

December 2, 2020

Regulatory Division
North Branch
LRH-2020-879-SCR

APPROVED JURISDICTIONAL DETERMINATION

Ms. Christina Wolf
Able Grid Energy Solutions, Inc.
1495 Canyon Drive, Suite 218
Boulder, CO 80302

Dear Ms. Wolf:

I refer to the report titled *Delineation of Waters of the United States, 13713 Jug Street Project Site, Licking County, Ohio*, dated November 24, 2020, and submitted on your behalf by EMH&T. You have requested an approved jurisdictional determination (AJD) for the aquatic resources located on the approximate 15-acre site. The property is located on the south side of Jug Street and east of Beech Road in Jersey Township, Licking County, Ohio (40.0958, -82.7454). Your AJD request has been assigned the following file number: LRH-2020-879-SCR. Please reference this number on all future correspondence related to this AJD request.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328, including the amendments to 33 FFR 328.3 (85 Federal Register 22250), and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

The Navigable Waters Protection Rule, which became effective on June 22, 2020, was followed in this verification of Section 404 jurisdiction for the features located within the AJD boundary. Based upon a review of the submitted report and additional information available to us, this office has determined that:

- Pond 1 (0.64 acre) has been constructed or excavated in uplands and is not considered a water of the United States per 33 CFR 328.3(b)(8); and
- Wetland A (1.06 acres), Wetland B (1.32 acres), Wetland C (0.08 acre), and Wetland D (0.15 acre) do not meet the definition of an adjacent wetland (33 CFR 328.3(c)(1)(i)-(iv)), are physically remote and isolated, and are not considered waters of the United States per 33 CFR 328.3(b)(1).

Pond 1 and Wetlands A, B, C, and D are not considered jurisdictional waters of the United States and are not subject to regulation under Section 404. These non-jurisdictional features are depicted on the

enclosed map titled "13713 Jug Street Delineation Map Exhibit 5" dated November 24, 2020 and also listed in the enclosed AJD Table. You should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state permit requirements.

This jurisdictional verification is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date. This letter contains an AJD for the subject site within the AJD boundary. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the Great Lakes and Ohio River Division Office at the following address:

Appeal Review Officer
United States Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10-714
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699
Fax: (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

This determination has been conducted to identify the limits of the Corps' Section 404 jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

A copy of this letter will be provided to the Ohio Environmental Protection Agency at Lazarus Government Building, Post Office Box 1049 Columbus, Ohio 43216-3669 and your agent, Mr. Pat Hoyng with EMH&T. If you have any questions concerning the above, please contact Cecil Cox of the North Branch at 304-399-5274, by mail at the above address, or by email at cecil.m.cox@usace.army.mil.

Sincerely,



Andrew J. Wendt
Regulatory Project Manager
North Branch

Encls

cc:

Pat Hoyng (via email)



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WV 25701-2018

February 3, 2022

Regulatory Division
North Branch
LRH-2022-38-SCR

APPROVED & PRELIMINARY JURISDICTIONAL DETERMINATIONS

Mr. Ryan Ohly
City of New Albany
99 West Main Street
New Albany, Ohio 43054

Dear Mr. Ohly:

I refer to the *Jug Street Improvements Project, Investigation of Waters of the United States, The City of New Albany, dated 6 January 2022* submitted on your behalf by EMH&T, Inc. You have requested a preliminary jurisdictional determination (JD) for the potential jurisdictional aquatic resources and an approved JD for the potential non-jurisdictional aquatic resources on the approximate 78.01-acre site. The property is located along Jug Street from west of Beech Road to Mink Street in Jersey Township, Licking County, Ohio at approximately 40.0963 latitude, -82.7343 longitude. Your JD request was previously assigned the following file number: LRH-2022-38-SCR. Please reference this number on all future correspondence related to this project.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over, or under a navigable water.

Preliminary Jurisdictional Determination

Based upon a review of the submitted report, this office has determined 315 linear feet of two (2) streams (Haines Ditch and Stream 1) and 0.07 acre of two (2) wetlands (Wetlands K and L) are located within the approximate 78.01-acre site and may be waters of the United States in accordance with the Regulatory Guidance Letter for JDs issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01). As indicated in the guidance, this Preliminary JD is non-binding and cannot be appealed (33 CFR 331.2), and only provides a written indication that waters of the United States, including wetlands, may be present on-site.

You have declined to exercise the option to obtain an approved JD in this instance and at this time for the above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find two copies of the Preliminary JD. If you agree with the findings of this Preliminary JD and understand your options regarding the same, please sign and date one (1) copy of the Preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to the following address:

United States Army Corps of Engineers
Huntington District
Attn: North Branch
502 Eighth Street
Huntington, West Virginia 25701

Approved Jurisdictional Determination

Our December 2, 2008 headquarters guidance entitled *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* was followed in the final verification of Clean Water Act jurisdiction. Based on a review of the information dated January 6, 2022, and other information available to us, Wetlands A-J are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. These wetlands would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. Therefore, these wetlands are not jurisdictional waters of the United States. However, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state permit requirements.

In accordance with the June 5, 2007 Joint Memorandum between the United States Environmental Protection Agency (USEPA) and the Corps and the January 28, 2008 Corps Memorandum regarding coordination on jurisdictional determinations, this isolated wetland determination was coordinated with the USEPA Region 5 and the Corps Headquarters, with coordination completed on December 2, 2021 and December 13, 2021, respectively.

This jurisdictional verification is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date. This letter contains an approved JD for the subject site within the approved JD boundary. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the Great Lakes and Ohio River Division Office at the following address:

Appeal Review Officer
United States Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10-714
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699
Fax: (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. **It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.**

This determination has been conducted to identify the limits of the Corps' Section 404 jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

A copy of this letter is being provided to your agent, Mr. Eric Nagy of EMH&T, Inc. If you have any questions concerning the above, please contact James Reenan of the North Branch at 816-389-3832, by mail at the above address, or by email at james.s.reenan@usace.army.mil.

Sincerely,



Teresa Spagna
Chief, North Branch

Enclosures(s)

cc (via email):

Mr. Eric Nagy, EMH&T, Inc.

APPENDIX B

**U.S. Army Corps of Engineers Wetland Determination Data Forms / OEPA
Wetland ORAM Forms / Delineated Features Photographs**

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Jug Station City/County: Licking Sampling Date: 14-Nov-22
 Applicant/Owner: AEP State: OH Sampling Point: **W-MRK-004 PEM**
 Investigator(s): MRK, RBL Section, Township, Range: S _____ T 2N R 15W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave
 Slope: 1.0% / 0.6 ° Lat.: 40.095431 Long.: -82.747167 Datum: NAD83
 Soil Map Unit Name: BeB: Bennington silt loam, 2 to 6 percent slopes NWI classification: NA

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 checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
|---|--|

Remarks:
 This PEM wetland is located in a depression collecting surface runoff adjacent to the existing sub station. Water follows the depression and outside of the study area where it drains into a pond. Boundary follows edge of depression.

VEGETATION - Use scientific names of plants.

| | Absolute % Cover | Dominant Species? Rel.Strat. Cover | Indicator Status | |
|--|------------------|--|------------------|--|
| Tree Stratum (Plot size: <u>30'</u> radius) | | | | |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | | 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>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| | 0 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u> radius) | | | | |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | | Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</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>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.000</u> |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| | 0 | = Total Cover | | |
| Herb Stratum (Plot size: <u>5'</u> radius) | | | | |
| 1. <u>Phragmites australis</u> | 100 | <input checked="" type="checkbox"/> 100.0% | FACW | 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) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 6. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 7. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 8. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 9. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| 10. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| | 100 | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>30'</u> radius) | | | | |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | | Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | | |
| | 0 | = Total Cover | | |

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

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Jug Station City/County: Licking Sampling Date: 14-Nov-22
 Applicant/Owner: AEP State: OH Sampling Point: **W-MRK-004-005 UPL**
 Investigator(s): MRK, RBL Section, Township, Range: S _____ T 2N R 15W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave
 Slope: 1.0% / 0.6 ° Lat.: 40.095902 Long.: -82.747180 Datum: NAD83
 Soil Map Unit Name: BeB: Bennington silt loam, 2 to 6 percent slopes NWI classification: NA

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="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks: Upland data point for W-MRK-004 and W-MRK-005. Upland data was collected in a fallow field next to a dry ditch that is adjacent to the existing sub station. | |

VEGETATION - Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> radius) | Absolute % Cover | Dominant Species? Rel.Strat. Cover | Indicator Status | Dominance Test worksheet: |
|---|------------------|--|------------------|---|
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | 0 | |
| 0 = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u> radius) | | | | Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>120</u> x 4 = <u>480</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>520</u> (B) Prevalence Index = B/A = <u>3.714</u> |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 0 = Total Cover | | | | |
| Herb Stratum (Plot size: <u>5'</u> radius) | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input 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 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Andropogon virginicus</u> | 75 | <input checked="" type="checkbox"/> 53.6% FACU | | |
| 2. <u>Dipsacus fullonum</u> | 25 | <input type="checkbox"/> 17.9% FACU | | |
| 3. <u>Solidago canadensis</u> | 20 | <input type="checkbox"/> 14.3% FACU | | |
| 4. <u>Carex vulpinoidea</u> | 10 | <input type="checkbox"/> 7.1% FACW | | |
| 5. <u>Euthamia graminifolia</u> | 5 | <input type="checkbox"/> 3.6% FACW | | |
| 6. <u>Agrimonia parviflora</u> | 5 | <input type="checkbox"/> 3.6% FACW | | |
| 7. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 8. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 9. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 10. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 140 = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u> radius) | | | | |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | |
| 0 = Total Cover | | | | |

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

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Jug Station City/County: Licking Sampling Date: 14-Nov-22
 Applicant/Owner: AEP State: OH Sampling Point: **W-MRK-005 PEM**
 Investigator(s): MRK, RBL Section, Township, Range: S _____ T 2N R 15W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave
 Slope: 1.0% / 0.6 ° Lat.: 40.096301 Long.: -82.747205 Datum: NAD83
 Soil Map Unit Name: BeB: Bennington silt loam, 2 to 6 percent slopes NWI classification: NA

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 checked="" type="radio"/> No <input type="radio"/> | Hydic Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | | |

Remarks:
 This PEM wetland is located within a swale that is collecting surface runoff. Water drains out of the wetland and dissipates into a dry and rocky ditch that drains toward W-MRK-004. Wetland boundary follows edge of swale.

VEGETATION - Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> radius) | Absolute % Cover | Dominant Species? Rel.Strat. Cover | Indicator Status | Dominance Test worksheet: | |
|---|------------------|---|------------------|--|---------------------|
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | Number of Dominant Species That are OBL, FACW, or FAC: | <u>1</u> (A) |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | Total Number of Dominant Species Across All Strata: | <u>1</u> (B) |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | Percent of dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | | |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | 0 | | |
| | 0 | = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u> radius) | Absolute % Cover | Dominant Species? Rel.Strat. Cover | Indicator Status | Prevalence Index worksheet: | |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | Total % Cover of: | Multiply by: |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | OBL species <u>90</u> | x 1 = <u>90</u> |
| 3. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | FACW species <u>10</u> | x 2 = <u>20</u> |
| 4. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | FAC species <u>10</u> | x 3 = <u>30</u> |
| 5. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | FACU species <u>5</u> | x 4 = <u>20</u> |
| | 0 | = Total Cover | | UPL species <u>0</u> | x 5 = <u>0</u> |
| | 0 | = Total Cover | | Column Totals: <u>115</u> (A) | <u>160</u> (B) |
| | | | | Prevalence Index = B/A = | <u>1.391</u> |
| Herb Stratum (Plot size: <u>5'</u> radius) | Absolute % Cover | Dominant Species? Rel.Strat. Cover | Indicator Status | Hydrophytic Vegetation Indicators: | |
| 1. <u>Typha angustifolia</u> | 75 | <input checked="" type="checkbox"/> 65.2% | OBL | <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation | |
| 2. <u>Juncus effusus</u> | 15 | <input type="checkbox"/> 13.0% | OBL | <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% | |
| 3. <u>Euthamia graminifolia</u> | 10 | <input type="checkbox"/> 8.7% | FACW | <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ | |
| 4. <u>Apocynum cannabinum</u> | 10 | <input type="checkbox"/> 8.7% | FAC | <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) | |
| 5. <u>Cirsium arvense</u> | 5 | <input type="checkbox"/> 4.3% | FACU | <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) | |
| 6. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | |
| 7. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | | |
| 8. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | | |
| 9. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | | |
| 10. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | | |
| | 115 | = Total Cover | | | |
| Woody Vine Stratum (Plot size: <u>30'</u> radius) | Absolute % Cover | Dominant Species? Rel.Strat. Cover | Indicator Status | Hydrophytic Vegetation Present? | |
| 1. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | Yes <input checked="" type="radio"/> No <input type="radio"/> | |
| 2. _____ | 0 | <input type="checkbox"/> 0.0% | _____ | | |
| | 0 | = Total Cover | | | |

Remarks: (Include photo numbers here or on a separate sheet.)
 Vegetation is disturbed by recent utility pole placement.

¹Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: **W-MRK-005 PEM**

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

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks | |
|----------------|---------------|-----|----------------|------|-------------------|------------------|---------|---------|-----------------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | | |
| 0-16 | 10YR | 4/1 | 90 | 10YR | 6/8 | 10 | C | PL | Silty Clay Loam |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

| | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <p>Indicators for Problematic Hydric Soils ³:</p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p> |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> 2 cm Muck (A10) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Muck Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | | |

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Soils are disturbed in parts of the wetland from recent new utility pole placement.

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|--|--|--|
| <u>Primary Indicators (minimum of one is required; check all that apply)</u> | | <u>Secondary Indicators (minimum of two required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

| | | | |
|--|---|-----------------------|--|
| Surface Water Present? | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): _____ | <p>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/></p> |
| Water Table Present? | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): _____ | |
| Saturation Present? (includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): _____ | |

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

Remarks:
The source of hydrology is surface runoff.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ |
| Remarks: _____ _____ _____ | |

VEGETATION – Use scientific names of plants.

| <u>Tree Stratum</u> (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|---------------------|----------------------|---------------------|---|
| 1. _____ | _____ | _____ | _____ | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| _____ = 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: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Herb Stratum</u> (Plot size: _____) | | | | Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Woody Vine Stratum</u> (Plot size: _____) | | | | Hydrophytic Vegetation Present? Yes _____ No _____ |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Remarks: (Include photo numbers here or on a separate sheet.) _____ _____ | | | | |

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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 _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ |
| Remarks: _____ | |

VEGETATION – Use scientific names of plants.

| <u>Tree Stratum</u> (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|---------------------|----------------------|---------------------|--|
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | _____ = Total Cover | | | |
| <u>Sapling/Shrub Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| | _____ = Total Cover | | | |
| <u>Herb Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| | _____ = Total Cover | | | |
| <u>Woody Vine Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| | _____ = Total Cover | | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
 Total Number of Dominant Species Across All Strata: _____ (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

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

Hydrophytic Vegetation Indicators:
 ___ Dominance Test is >50%
 ___ Prevalence Index is ≤3.0¹
 ___ 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.

| | |
|--|--|
| Remarks: (Include photo numbers here or on a separate sheet.) _____ _____ _____ | Hydrophytic Vegetation Present? Yes _____ No _____ |
|--|--|

SOIL

Sampling Point: EMHT Wetland A

| 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 | | |
| 0-20 | 10YR 4/1 | 90 | 7.5YR 4/4 | 10 | C | PL/M | Loamy/Clayey | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

²Location: PL=Pore Lining, M=Matrix.

| | | |
|---|---|--|
| Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|

Remarks:
Hydric soil is present.

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"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks) | <u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5) |
|--|---|---|

| | |
|---|---|
| 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 checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|

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

Remarks:
Wetland hydrology is present.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

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

Project/Site: Jug IPP Project City/County: Licking County Sampling Date: 10/18/2024
 Applicant/Owner: AEP State: OH Sampling Point: EMHT Wetland B
 Investigator(s): AGS/TJK Section, Township, Range: T2N R15W
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 40.095875 Long: -82.745717 Datum: NAD 83
 Soil Map Unit Name: BeB: Bennington 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 X, Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

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

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> | Is the Sampled Area within a Wetland? 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> | |

Remarks:

EMHT Wetland B is a PFO, isolated wetland located in a woodland habitat. The source of hydrology to the area is precipitation. The vegetation and soil are disturbed from construction vehicle activity and active tree clearing within the wetland at the time of survey.

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B) |
|--|------------------------|-------------------|------------------|---|
| 1. <u>Ulmus americana</u> | <u>15</u> | <u>Yes</u> | <u>FACW</u> | |
| 2. <u>Acer rubrum</u> | <u>15</u> | <u>Yes</u> | <u>FAC</u> | |
| 3. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 4. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u>30</u> =Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u> |
| 1. <u>Carya cordiformis</u> | <u>30</u> | <u>Yes</u> | <u>FACU</u> | |
| 2. <u>Juglans nigra</u> | <u>5</u> | <u>No</u> | <u>FACU</u> | |
| 3. <u>Quercus palustris</u> | <u>5</u> | <u>No</u> | <u>FACW</u> | |
| 4. <u>Ulmus americana</u> | <u>5</u> | <u>No</u> | <u>FACW</u> | |
| 5. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u>45</u> =Total Cover | | | |
| Herb Stratum (Plot size: <u>5'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Cinna arundinacea</u> | <u>10</u> | <u>Yes</u> | <u>FACW</u> | |
| 2. <u>Persicaria pensylvanica</u> | <u>5</u> | <u>Yes</u> | <u>FACW</u> | |
| 3. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 4. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 6. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 7. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 8. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 9. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 10. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u>15</u> =Total Cover | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> |
| 1. <u>Toxicodendron radicans</u> | <u>5</u> | <u>Yes</u> | <u>FAC</u> | |
| 2. <u>Parthenocissus quinquefolia</u> | <u>5</u> | <u>Yes</u> | <u>FACU</u> | |
| | <u>10</u> =Total Cover | | | |

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

Hydrophytic vegetation is present. There was active tree clearing within the wetland during the survey.

SOIL

Sampling Point: EMHT Wetland B

| 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 | | |
| 0-20 | 10YR 3/2 | 95 | 10YR 5/4 | 5 | C | PL/M | Loamy/Clayey | Distinct redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

²Location: PL=Pore Lining, M=Matrix.

| | | |
|---|---|--|
| Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|

Remarks:
Hydric soil is present. The soil is disturbed and tire tracks were present in the wetland due to construction vehicle activity.

HYDROLOGY

| | | | |
|--|--|--|--|
| Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) | | Secondary Indicators (minimum of two required) | |
| <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5) | |

| | |
|---|---|
| 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 checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|

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

Remarks:
Wetland hydrology is present.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

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

Project/Site: Jug IPP Project City/County: Licking County Sampling Date: 10/18/2024
 Applicant/Owner: AEP State: OH Sampling Point: EMHT Wetland C
 Investigator(s): AGS/TJK Section, Township, Range: T2N R15W
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 40.096464 Long: -82.745782 Datum: NAD 83
 Soil Map Unit Name: BeB: Bennington 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 X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> | Is the Sampled Area within a Wetland? 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> | |

Remarks:
 EMHT Wetland C is a PEM, isolated wetland located in a woodland habitat. The source of hydrology to the area is precipitation. The vegetation is disturbed, as signs of tree clearing were observed.

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A) Total Number of Dominant Species Across All Strata: <u>11</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>90.9%</u> (A/B) |
|--|------------------|-------------------|------------------|---|
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| =Total Cover | | | | Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
| 1. <u>Quercus palustris</u> | <u>5</u> | <u>Yes</u> | <u>FACW</u> | |
| 2. <u>Acer rubrum</u> | <u>5</u> | <u>Yes</u> | <u>FAC</u> | |
| 3. <u>Rosa multiflora</u> | <u>5</u> | <u>Yes</u> | <u>FACU</u> | |
| 4. <u>Ulmus americana</u> | <u>5</u> | <u>Yes</u> | <u>FACW</u> | |
| 5. _____ | _____ | _____ | _____ | |
| =Total Cover | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Carex lurida</u> | <u>15</u> | <u>Yes</u> | <u>OBL</u> | |
| 2. <u>Carex vulpinoidea</u> | <u>15</u> | <u>Yes</u> | <u>FACW</u> | |
| 3. <u>Epilobium ciliatum</u> | <u>10</u> | <u>Yes</u> | <u>FACW</u> | |
| 4. <u>Lycopus americanus</u> | <u>10</u> | <u>Yes</u> | <u>OBL</u> | |
| 5. <u>Cinna arundinacea</u> | <u>10</u> | <u>Yes</u> | <u>FACW</u> | |
| 6. <u>Solidago gigantea</u> | <u>10</u> | <u>Yes</u> | <u>FACW</u> | |
| 7. <u>Solidago rugosa</u> | <u>10</u> | <u>Yes</u> | <u>FAC</u> | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| =Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| =Total Cover | | | | |

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation is present. There were signs of tree clearing present within the wetland.

SOIL

Sampling Point: EMHT Wetland C

| 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 | | |
| 0-20 | 10YR 3/2 | 95 | 10YR 5/4 | 5 | C | PL | Loamy/Clayey | Distinct redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

²Location: PL=Pore Lining, M=Matrix.

| | | |
|---|---|--|
| Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|

Remarks:
Hydric soil is present.

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"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks) | <u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <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 checked="" type="checkbox"/> FAC-Neutral Test (D5) |
|--|--|---|

| | |
|---|---|
| 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 checked="" type="checkbox"/> No <input type="checkbox"/> |
|---|---|

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

Remarks:
Wetland hydrology is present.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

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

Project/Site: Jug IPP Project City/County: Licking County Sampling Date: 10/18/2024
 Applicant/Owner: AEP State: OH Sampling Point: EMHT Wetland A/B/C UPL
 Investigator(s): AGS/TJK Section, Township, Range: T2N R15W
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 40.096685 Long: -82.745774 Datum: NAD 83
 Soil Map Unit Name: BeB: Bennington 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 X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

| | |
|---|--|
| Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> | Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u> |
| Hydric Soil Present? Yes <u> </u> No <u>X</u> | |
| Wetland Hydrology Present? Yes <u> </u> No <u>X</u> | |

Remarks:
 EMHT Wetland A/B/C UPL is an upland data point located in a woodland habitat. The source of hydrology to the area is precipitation. The soil is disturbed from construction activity (compacted).

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | 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>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>22.2%</u> (A/B) |
|--|--------------------------|-------------------|------------------|--|
| 1. <u>Quercus rubra</u> | <u>10</u> | <u>Yes</u> | <u>FACU</u> | |
| 2. <u>Ulmus americana</u> | <u>5</u> | <u>Yes</u> | <u>FACW</u> | |
| 3. <u>Carya cordiformis</u> | <u>5</u> | <u>Yes</u> | <u>FACU</u> | |
| 4. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u>20</u> =Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>100</u> (A) <u>355</u> (B) Prevalence Index = B/A = <u>3.55</u> |
| 1. <u>Quercus alba</u> | <u>5</u> | <u>Yes</u> | <u>FACU</u> | |
| 2. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 3. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 4. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u>5</u> =Total Cover | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Dactylis glomerata</u> | <u>20</u> | <u>Yes</u> | <u>FACU</u> | |
| 2. <u>Phleum pratense</u> | <u>10</u> | <u>Yes</u> | <u>FACU</u> | |
| 3. <u>Solidago canadensis</u> | <u>10</u> | <u>Yes</u> | <u>FACU</u> | |
| 4. <u>Daucus carota</u> | <u>10</u> | <u>Yes</u> | <u>UPL</u> | |
| 5. <u>Poa pratensis</u> | <u>10</u> | <u>Yes</u> | <u>FAC</u> | |
| 6. <u>Cinna arundinacea</u> | <u>5</u> | <u>No</u> | <u>FACW</u> | |
| 7. <u>Carex lurida</u> | <u>5</u> | <u>No</u> | <u>OBL</u> | |
| 8. <u>Symphyotrichum lateriflorum</u> | <u>5</u> | <u>No</u> | <u>FACW</u> | |
| 9. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 10. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u>75</u> =Total Cover | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> |
| 1. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 2. <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| | <u> </u> =Total Cover | | | |

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation is not present.

SOIL

Sampling Point: EMHT Wetland A/B/C/UPL

| 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 | | |
| 0-8 | 2.5Y 5/3 | 100 | | | | | Loamy/Clayey | No redox |
| 8+ | | | | | | | | Shovel Refusal |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

Hydric soil is not present. The soil is disturbed and compacted from construction activity. There was shovel refusal caused by compacted clay and rock beyond 8 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ___ No X

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

N/A

Remarks:

Wetland hydrology is not present.

| | | | |
|----------------------------------|---------------|---------------------------------------|------|
| Name of Wetland: | W-MRK-004 PEM | | |
| Wetland Size (delineated acres): | 0.29 | Wetland Size (Estimated total acres): | 0.00 |

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



Comments, Narrative Discussion, Justification of Category Changes:

This PEM wetland is located in a depression collecting surface runoff adjacent to the existing sub station. Water follows the depression and outside of the study area where it drains into a pond. Boundary follows edge of depression.

| | | | |
|--------------|---|-----------|---|
| Final score: | 6 | Category: | 1 |
|--------------|---|-----------|---|

| | |
|--------------------|----------------------|
| Wetland ID: | W-MRK-004 PEM |
|--------------------|----------------------|

Scoring Boundary Worksheet

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

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

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

Wetland ID: W-MRK-004 PEM

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 |

Wetland ID: W-MRK-004 PEM

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

Wetland ID: W-MRK-004 PEM

| 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.

Wetland ID: W-MRK-004 PEM

Site: Jug Station Rater(s): MRK, RBL Date: 11/14/2022

Field ID:

W-MRK-004 PEM

1.0 1.0
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)
x 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<0.1 acres (0.04ha) (0 pts)

Table with 2 columns: Delineated acres: 0.29, Total acres:

1.0 2.0
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)
x VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

5.0 7.0
max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

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)
x 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)
x Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

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

3.0 10.0
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)
x Recent or no recovery (1)

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

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

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

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

Check all disturbances observed

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

10.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-MRK-004 PEM

Site: Jug Station Rater(s): MRK, RBL Date: 11/14/2022

10.0 subtotal this page

Field ID: W-MRK-004 PEM

0.0 10.0 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 5 Qualitative Rating (-10)

-4.0 6.0 max 20pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed 1 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

Table 1 ORAM long form for list. Add or deduct points for coverage

- x 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.

- 0 Vegetated hummocks/tussucks 0 Coarse woody debris >15cm (6in) 0 Standing dead >25cm (10in) dbh 0 Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

6.0 TOTAL (Max 100 pts) 1 Category

| | |
|--------------------|----------------------|
| Wetland ID: | W-MRK-004 PEM |
|--------------------|----------------------|

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

| | |
|--------------------|----------------------|
| Wetland ID: | W-MRK-004 PEM |
|--------------------|----------------------|

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. |

Final Category

| | | | |
|------------|--------------------|------------|------------|
| Choose one | *Category 1 | Category 2 | Category 3 |
|------------|--------------------|------------|------------|

End of Ohio Rapid Assessment Method for Wetlands.

| | | | |
|----------------------------------|---------------|---------------------------------------|------|
| Name of Wetland: | W-MRK-005 PEM | | |
| Wetland Size (delineated acres): | 0.03 | Wetland Size (Estimated total acres): | 0.00 |

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



Comments, Narrative Discussion, Justification of Category Changes:

This PEM wetland is located within a swale that is collecting surface runoff. Water drains out of the wetland and dissipates into a dry and rocky ditch that drains toward W-MRK-004. Wetland boundary follows edge of swale.

| | | | |
|--------------|----|-----------|---|
| Final score: | 10 | Category: | 1 |
|--------------|----|-----------|---|

| | |
|--------------------|----------------------|
| Wetland ID: | W-MRK-005 PEM |
|--------------------|----------------------|

Scoring Boundary Worksheet

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

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

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

Wetland ID: W-MRK-005 PEM

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 |

| | |
|--------------------|----------------------|
| Wetland ID: | W-MRK-005 PEM |
|--------------------|----------------------|

| | | |
|---|--|--|
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a</p> | <p>*NO Go to Question 9a</p> |
| <p>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?</p> | <p>YES Go to Question 9b</p> | <p>*NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>*NO Go to Question 9c</p> |
| <p>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.</p> | <p>YES Go to Question 9d</p> | <p>*NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland is a Category 3 wetland Go to Question 10</p> | <p>NO Go to Question 9e</p> |
| <p>9e Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>NO Go to Question 10</p> |
| <p>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.</p> | <p>YES Wetland is a Category 3 wetland. Go to Question 11</p> | <p>*NO Go to Question 11</p> |
| <p>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.).</p> | <p>YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating</p> | <p>*NO Complete Quantitative Rating</p> |

Wetland ID: W-MRK-005 PEM

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.

Wetland ID: W-MRK-005 PEM

Site: Jug Station Rater(s): MRK, RBL Date: 11/14/2022

0.0 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)
x <0.1 acres (0.04ha) (0 pts)

Field ID:

W-MRK-005 PEM

Table with 2 columns: Delineated acres: 0.03, Total acres:

1.0 1.0
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)
x VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

5.0 6.0
max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

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)
x 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)
x Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

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

3.0 9.0
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)
x Recent or no recovery (1)

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

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

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

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

Check all disturbances observed

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

9.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-MRK-005 PEM

Site: Jug Station Rater(s): MRK, RBL Date: 11/14/2022

9.0 subtotal this page

Field ID: W-MRK-005 PEM

0.0 9.0 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 5 Qualitative Rating (-10)

1.0 10.0 max 20pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed 1 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) x

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks 0 Coarse woody debris >15cm (6in) 0 Standing dead >25cm (10in) dbh 0 Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

10.0 TOTAL (Max 100 pts) 1 Category

Wetland ID: W-MRK-005 PEM

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

| | |
|--------------------|----------------------|
| Wetland ID: | W-MRK-005 PEM |
|--------------------|----------------------|

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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method? | YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form | *NO Wetland is assigned to category as determined by the ORAM. | A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided. |

Final Category

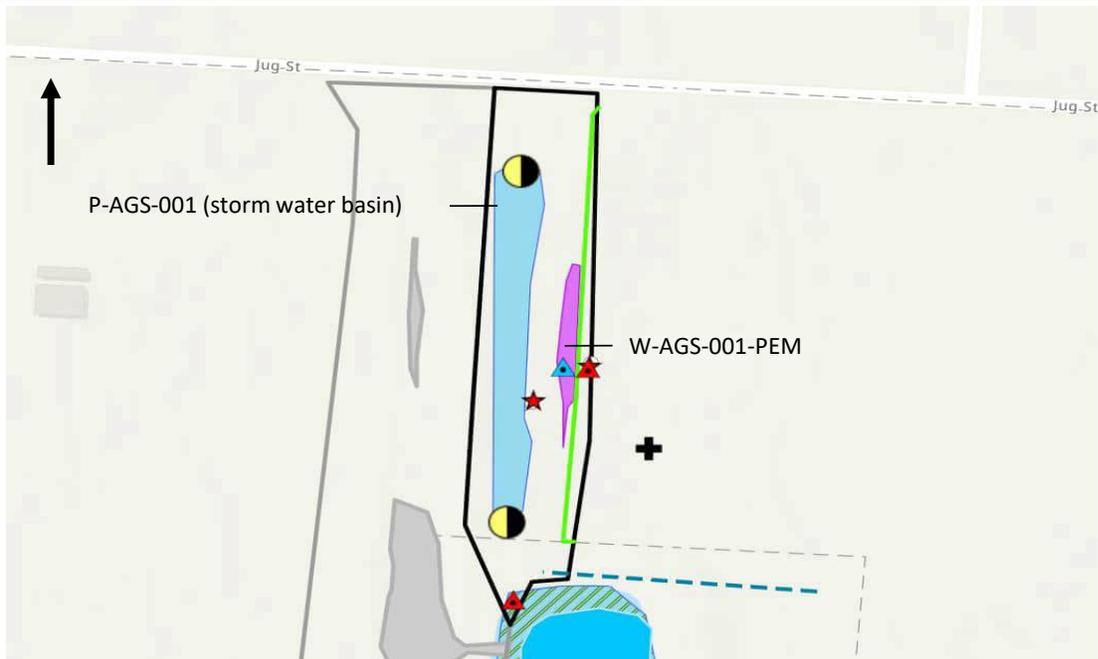
| | | | |
|------------|--------------------|------------|------------|
| Choose one | *Category 1 | Category 2 | Category 3 |
|------------|--------------------|------------|------------|

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

| | |
|---------------------------|--|
| Name: | Austin Sige |
| Date: | 6/17/2024 |
| Affiliation: | AECOM |
| Address: | 707 Grant Street, 5th Floor, Pittsburgh, PA 15219 |
| Phone Number: | 412-395-8888 |
| e-mail address: | austin.sige@aecom.com |
| Name of Wetland: | W-AGS-001 |
| Vegetation Communit(ies): | PEM |
| HGM Class(es): | Depressional |

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



| | |
|---------------------------------|-----------------------|
| Lat/Long or UTM Coordinate: | 40.096135, -82.746668 |
| USGS Quad Name: | Jersey |
| County: | Licking |
| Township: | T2N |
| Section and Subsection: | |
| Hydrologic Unit Code: | 50600011503 |
| Site Visit: | 6/17/2024 |
| National Wetland Inventory Map: | See Figure 2 |
| Ohio Wetland Inventory Map: | See Figure 2 |
| Soil Survey: | See Figure 2 |
| Delineation report/map: | See Figure 3 |

| | | | |
|----------------------------------|-----------|---------------------------------------|------|
| Name of Wetland: | W-AGS-001 | | |
| Wetland Size (delineated acres): | 0.00 | Wetland Size (Estimated total acres): | 0.00 |

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



Comments, Narrative Discussion, Justification of Category Changes:

| | | | |
|--------------|------|-----------|---|
| Final score: | 24.5 | Category: | 1 |
|--------------|------|-----------|---|

| | |
|--------------------|------------------|
| Wetland ID: | W-AGS-001 |
|--------------------|------------------|

Scoring Boundary Worksheet

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

| # | Steps in properly establishing scoring boundaries | done? | not applicable |
|--------|--|-------|----------------|
| Step 1 | Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. | | |
| 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.

Wetland ID: W-AGS-001

Narrative Rating

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

| # | Question | Circle one | |
|----|--|---|---------------------------------|
| 1 | Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000). | YES Wetland should be evaluated for possible Category 3 status Go to Question 2 | NO Go to Question 2 |
| 2 | Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species? | YES Wetland is a Category 3 wetland. Go to Question 3 | *NO Go to Question 3 |
| 3 | Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland? | YES Wetland is a Category 3 wetland Go to Question 4 | NO Go to Question 4 |
| 4 | Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas? | YES Wetland is a Category 3 wetland Go to Question 5 | *NO Go to Question 5 |
| 5 | Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <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 |

Wetland ID: W-AGS-001

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

| | |
|--------------------|------------------|
| Wetland ID: | W-AGS-001 |
|--------------------|------------------|

| 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 viridicarinatum</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.

Wetland ID: W-AGS-001

Site: AEP Jug St Transco **Rater(s):** Austin Sige, Adam Crowe **Date:** 6/17/2024

0.0 **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)

Field ID:

W-AGS-001-PEM

| | |
|--------------------------|--|
| Delineated acres: | |
| Total acres: | |

2.0 **2.0**
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), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

6.0 **8.0**
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 one.

- >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 checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> Other: |

11.5 **19.5**
max 30 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 checked="" 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 |

19.5
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-AGS-001

Site: AEP Jug St Transco Rater(s): Austin Sige, Adam Crowe Date: 6/17/2024

19.5 subtotal this page

Field ID: W-AGS-001-PEM

0.0 19.5 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 5 Qualitative Rating (-10)

5.0 24.5 max 20pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
2 Emergent
Shrub
Forest
Mudflats
Open water
Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

24.5 TOTAL (Max 100 pts)
1 Category

| | |
|--------------------|------------------|
| Wetland ID: | W-AGS-001 |
|--------------------|------------------|

ORAM Summary Worksheet

| | | Circle answer or insert score | Result |
|----------------------------------|---|--|--|
| Narrative Rating | Question 1. Critical Habitat | YES NO | If yes, Category 3. |
| | Question 2. Threatened or Endangered Species | YES *NO | If yes, Category 3. |
| | Question 3. High Quality Natural Wetland | YES NO | If yes, Category 3. |
| | Question 4. Significant bird habitat | YES *NO | If yes, Category 3. |
| | Question 5. Category 1 Wetlands | YES *NO | If yes, Category 1. |
| | Question 6. Bogs | YES *NO | If yes, Category 3. |
| | Question 7. Fens | YES *NO | If yes, Category 3. |
| | Question 8a. Old Growth Forest | YES *NO | If yes, Category 3. |
| | Question 8b. Mature Forested Wetland | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9b. Lake Erie Wetlands - Restricted | YES NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9d. Lake Erie Wetlands – Unrestricted with native plants | YES NO | If yes, Category 3 |
| | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 10. Oak Openings | YES *NO | If yes, Category 3 |
| Question 11. Relict Wet Prairies | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. | |
| Quantitative Rating | Metric 1. Size | 0 | |
| | Metric 2. Buffers and surrounding land use | 2 | |
| | Metric 3. Hydrology | 6 | |
| | Metric 4. Habitat | 11.5 | |
| | Metric 5. Special Wetland Communities | 0 | |
| | Metric 6. Plant communities, interspersion, microtopography | 5 | |
| | TOTAL SCORE | 24.5 | Category 1 |

Complete Wetland Categorization Worksheet.

| | |
|--------------------|------------------|
| Wetland ID: | W-AGS-001 |
|--------------------|------------------|

Wetland Categorization Worksheet

| Choices | Circle one | | Evaluation of Categorization Result of ORAM |
|--|--|--|---|
| Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10 | YES Wetland is categorized as a Category 3 wetland | *NO | Is quantitative rating score <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. |

Final Category

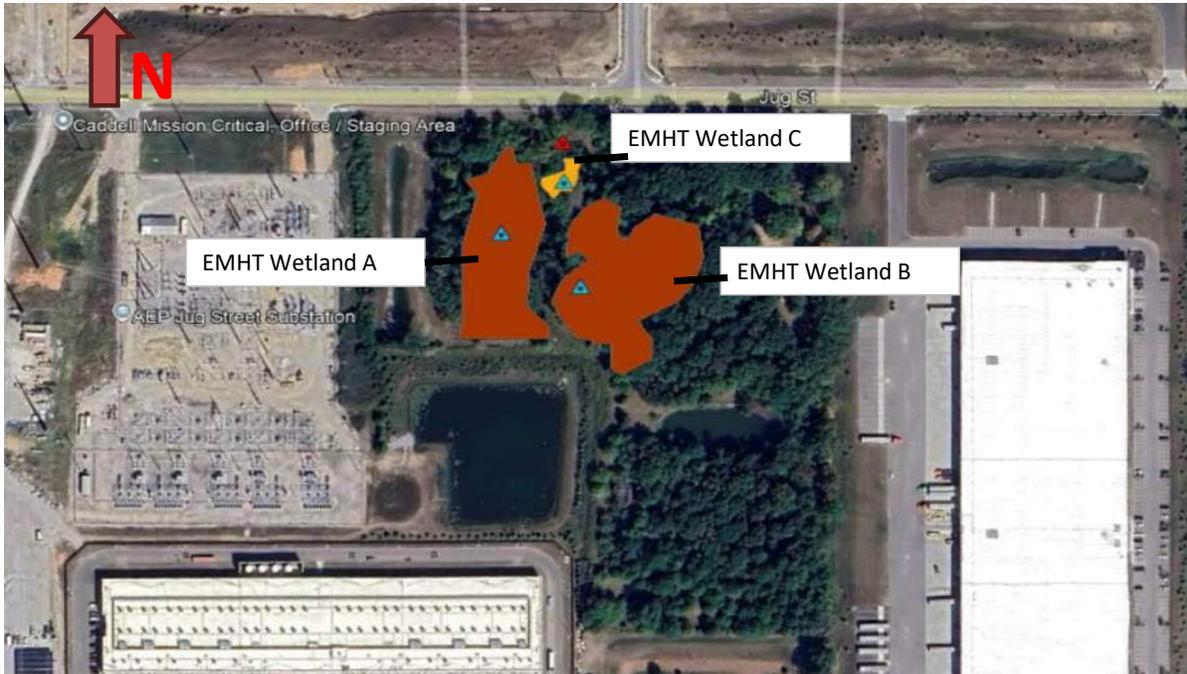
| | | | |
|------------|--------------------|------------|------------|
| Choose one | *Category 1 | Category 2 | Category 3 |
|------------|--------------------|------------|------------|

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

| | |
|---------------------------|--|
| Name: | Austin Sige |
| Date: | 10/18/2024 |
| Affiliation: | AECOM |
| Address: | 707 Grant Street, 5th Floor, Pittsburgh, PA 15219 |
| Phone Number: | 412-395-8888 |
| e-mail address: | austin.sige@aecom.com |
| Name of Wetland: | EMHT Wetland A |
| Vegetation Communit(ies): | PFO |
| HGM Class(es): | Depressional |

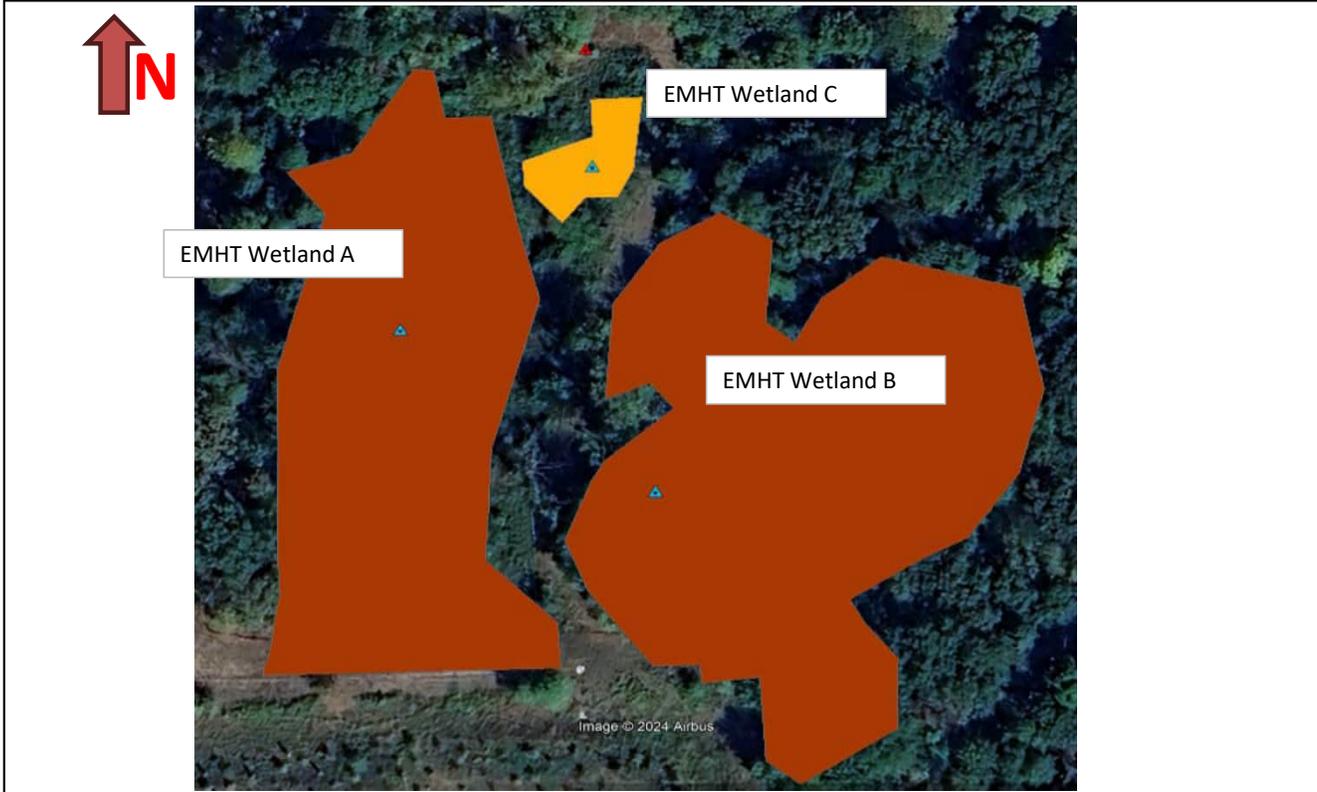
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



| | |
|---------------------------------|-----------------------|
| Lat/Long or UTM Coordinate: | 40.096194, -82.746209 |
| USGS Quad Name: | Jersey |
| County: | Licking |
| Township: | T2N R15W |
| Section and Subsection: | N/A |
| Hydrologic Unit Code: | 050600011503 |
| Site Visit: | 10/18/2024 |
| National Wetland Inventory Map: | See Figure 2 |
| Ohio Wetland Inventory Map: | See Figure 2 |
| Soil Survey: | See Figure 2 |
| Delineation report/map: | See Figure 3 |

| | | | |
|----------------------------------|----------------|---------------------------------------|------|
| Name of Wetland: | EMHT Wetland A | | |
| Wetland Size (delineated acres): | 1.06 | Wetland Size (Estimated total acres): | 1.06 |

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



Comments, Narrative Discussion, Justification of Category Changes:

EMHT Wetland A is a PFO, isolated wetland that is located in a depression within a woodland habitat. The source of hydrology to this area is precipitation.

| | | | |
|--------------|----|-----------|------------|
| Final score: | 40 | Category: | Modified 2 |
|--------------|----|-----------|------------|

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland A |
|--------------------|-----------------------|

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.

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland A |
|--------------------|-----------------------|

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 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 |

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| Wetland ID: | EMHT Wetland A |
|--------------------|-----------------------|

| | | |
|---|--|--|
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a</p> | <p>*NO Go to Question 9a</p> |
| <p>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?</p> | <p>YES Go to Question 9b</p> | <p>*NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>*NO Go to Question 9c</p> |
| <p>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.</p> | <p>YES Go to Question 9d</p> | <p>NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland is a Category 3 wetland Go to Question 10</p> | <p>NO Go to Question 9e</p> |
| <p>9e Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>NO Go to Question 10</p> |
| <p>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.</p> | <p>YES Wetland is a Category 3 wetland. Go to Question 11</p> | <p>*NO Go to Question 11</p> |
| <p>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.).</p> | <p>YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating</p> | <p>*NO Complete Quantitative Rating</p> |

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Weltand A |
|--------------------|-----------------------|

| 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 viridicarinatum</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.

Wetland ID: EMHT Wetland A

Site: Jug IPP Project Rater(s): Austin Sige Date: 10/18/2024

2.0 2.0

Metric 1. Wetland Area (size).

Field ID: EMHT Wetland A

max 6 pts subtotal

- Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) x 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)

Table with 2 columns: Delineated acres: 1.06, Total acres: 1.06

5.0 7.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts subtotal

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) x MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrubland, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) x HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11.0 18.0

Metric 3. Hydrology.

max 30 pts subtotal

- 3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) x Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select one. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) x <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) x 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) x 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) x Seasonally saturated in upper 30cm (12in) (1) Check all disturbances observed ditch tile dike weir x stormwater input point source (nonstormwater) filling/grading road bed/RR track dredging Other:

15.0 33.0

Metric 4. Habitat Alteration and Development.

max 20 pts subtotal

- 4a. Substrate disturbance. Score one or double check and average. x None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) x Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) x Recovered (6) Recovering (3) Recent or no recovery (1) Check all disturbances observed mowing grazing clearcutting x selective cutting x woody debris removal toxic pollutants shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

33.0

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: EMHT Wetland A

Site: Jug IPP Project Rater(s): Austin Sige Date: 10/18/2024

33.0 subtotal this page

Field ID: EMHT Wetland A

0.0 33.0 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 5 Qualitative Rating (-10)

7.0 40.0 max 20pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

40.0 TOTAL (Max 100 pts) Modified 2 Category

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland A |
|--------------------|-----------------------|

ORAM Summary Worksheet

| | | Circle answer or insert score | Result |
|----------------------------------|---|--|--|
| Narrative Rating | Question 1. Critical Habitat | YES NO | If yes, Category 3. |
| | Question 2. Threatened or Endangered Species | YES *NO | If yes, Category 3. |
| | Question 3. High Quality Natural Wetland | YES NO | If yes, Category 3. |
| | Question 4. Significant bird habitat | YES *NO | If yes, Category 3. |
| | Question 5. Category 1 Wetlands | YES *NO | If yes, Category 1. |
| | Question 6. Bogs | YES *NO | If yes, Category 3. |
| | Question 7. Fens | YES *NO | If yes, Category 3. |
| | Question 8a. Old Growth Forest | YES *NO | If yes, Category 3. |
| | Question 8b. Mature Forested Wetland | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9b. Lake Erie Wetlands - Restricted | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9d. Lake Erie Wetlands – Unrestricted with native plants | YES NO | If yes, Category 3 |
| | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 10. Oak Openings | YES *NO | If yes, Category 3 |
| Question 11. Relict Wet Prairies | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. | |
| Quantitative Rating | Metric 1. Size | 2 | |
| | Metric 2. Buffers and surrounding land use | 5 | |
| | Metric 3. Hydrology | 11 | |
| | Metric 4. Habitat | 15 | |
| | Metric 5. Special Wetland Communities | 0 | |
| | Metric 6. Plant communities, interspersion, microtopography | 7 | |
| | TOTAL SCORE | 40 | Category based on score breakpoints |

Complete Wetland Categorization Worksheet.

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland A |
|--------------------|-----------------------|

Wetland Categorization Worksheet

| Choices | Circle one | | Evaluation of Categorization Result of ORAM |
|--|--|--|---|
| Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10 | YES Wetland is categorized as a Category 3 wetland | *NO | Is quantitative rating score <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 within 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

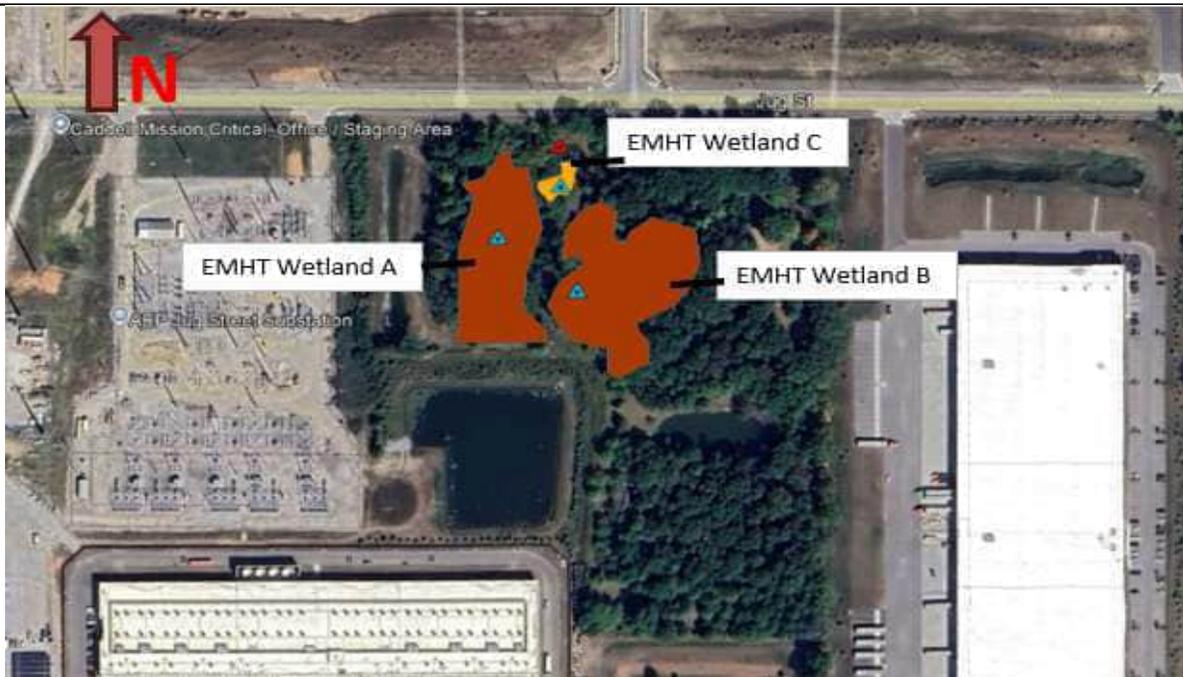
| | | | |
|------------|------------|-------------|------------|
| Choose one | Category 1 | *Category 2 | Category 3 |
|------------|------------|-------------|------------|

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

| | |
|---------------------------|--|
| Name: | Austin Sige |
| Date: | 10/18/2024 |
| Affiliation: | AECOM |
| Address: | 707 Grant Street, 5th Floor, Pittsburgh, PA 15219 |
| Phone Number: | 412-395-8888 |
| e-mail address: | austin.sige@aecom.com |
| Name of Wetland: | EMHT Wetland B |
| Vegetation Communit(ies): | PFO |
| HGM Class(es): | Depressional |

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



| | |
|---------------------------------|-----------------------|
| Lat/Long or UTM Coordinate: | 40.095875, -82.745717 |
| USGS Quad Name: | Jersey |
| County: | Licking |
| Township: | T2N R15W |
| Section and Subsection: | N/A |
| Hydrologic Unit Code: | 050600011503 |
| Site Visit: | 10/18/2024 |
| National Wetland Inventory Map: | See Figure 2 |
| Ohio Wetland Inventory Map: | See Figure 2 |
| Soil Survey: | See Figure 2 |
| Delineation report/map: | See Figure 3 |

| | | | |
|----------------------------------|----------------|---------------------------------------|------|
| Name of Wetland: | EMHT Wetland B | | |
| Wetland Size (delineated acres): | 1.32 | Wetland Size (Estimated total acres): | 1.32 |

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



Comments, Narrative Discussion, Justification of Category Changes:

EMHT Wetland B is a PFO, isolated wetland located in a woodland habitat. The source of hydrology to the area is precipitation. The vegetation and soil are disturbed from construction vehicle activity and active tree clearing within the wetland at the time of survey.

| | | | |
|--------------|------|-----------|------------------|
| Final score: | 30.5 | Category: | 1 or 2 Gray Zone |
|--------------|------|-----------|------------------|

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland B |
|--------------------|-----------------------|

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.

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland B |
|--------------------|-----------------------|

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 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 |

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|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland B |
|--------------------|-----------------------|

| | | |
|---|--|--|
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a</p> | <p>*NO Go to Question 9a</p> |
| <p>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?</p> | <p>YES Go to Question 9b</p> | <p>*NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>*NO Go to Question 9c</p> |
| <p>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.</p> | <p>YES Go to Question 9d</p> | <p>NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland is a Category 3 wetland Go to Question 10</p> | <p>NO Go to Question 9e</p> |
| <p>9e Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>NO Go to Question 10</p> |
| <p>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.</p> | <p>YES Wetland is a Category 3 wetland. Go to Question 11</p> | <p>*NO Go to Question 11</p> |
| <p>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.).</p> | <p>YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating</p> | <p>*NO Complete Quantitative Rating</p> |

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|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland B |
|--------------------|-----------------------|

| 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 viridicarinatum</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.

Wetland ID: EMHT Wetland B

Site: Jug IPP Project Rater(s): Austin Sige Date: 10/18/2024

2.0 2.0

Metric 1. Wetland Area (size).

Field ID:

EMHT Wetland B

max 6 pts subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
x 25 to <50 acres (10.1 to <20.2ha) (5 pts)
10 to <25 acres (4 to <10.1ha) (4 pts)
3 to <10 acres (1.2 to <4ha) (3 pts)
x 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)

Table with 2 columns: Metric Name, Value. Delineated acres: 1.32, Total acres: 1.32

5.0 7.0

Metric 2. Upland buffers and surrounding land use.

max 14 pts subtotal

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

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

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

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

11.0 18.0

Metric 3. Hydrology.

max 30 pts subtotal

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

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

3c. Maximum water depth. Select one.

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

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

- None or none apparent (12)
x 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)
x 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)
x Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

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

6.5 24.5

Metric 4. Habitat Alteration and Development.

max 20 pts subtotal

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

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

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

- Excellent (7)
Very good (6)
Good (5)
x 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)
x Recent or no recovery (1)

Check all disturbances observed

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

24.5

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: EMHT Wetland B

Site: Jug IPP Project Rater(s): Austin Sige Date: 10/18/2024

24.5 subtotal this page

Field ID: EMHT Wetland B

0.0 24.5 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 5 Qualitative Rating (-10)

6.0 30.5 max 20pts. 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

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 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30.5 TOTAL (Max 100 pts)
1 or 2 Gray Zone Category

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland B |
|--------------------|-----------------------|

ORAM Summary Worksheet

| | | Circle answer or insert score | Result |
|----------------------------------|---|--|--|
| Narrative Rating | Question 1. Critical Habitat | YES NO | If yes, Category 3. |
| | Question 2. Threatened or Endangered Species | YES *NO | If yes, Category 3. |
| | Question 3. High Quality Natural Wetland | YES NO | If yes, Category 3. |
| | Question 4. Significant bird habitat | YES *NO | If yes, Category 3. |
| | Question 5. Category 1 Wetlands | YES *NO | If yes, Category 1. |
| | Question 6. Bogs | YES *NO | If yes, Category 3. |
| | Question 7. Fens | YES *NO | If yes, Category 3. |
| | Question 8a. Old Growth Forest | YES *NO | If yes, Category 3. |
| | Question 8b. Mature Forested Wetland | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9b. Lake Erie Wetlands - Restricted | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9d. Lake Erie Wetlands – Unrestricted with native plants | YES NO | If yes, Category 3 |
| | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 10. Oak Openings | YES *NO | If yes, Category 3 |
| Question 11. Relict Wet Prairies | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. | |
| Quantitative Rating | Metric 1. Size | 2 | |
| | Metric 2. Buffers and surrounding land use | 5 | |
| | Metric 3. Hydrology | 11 | |
| | Metric 4. Habitat | 6.5 | |
| | Metric 5. Special Wetland Communities | 0 | |
| | Metric 6. Plant communities, interspersion, microtopography | 6 | |
| | TOTAL SCORE | 30.5 | Category based on score breakpoints |

Complete Wetland Categorization Worksheet.

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland B |
|--------------------|-----------------------|

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 within 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

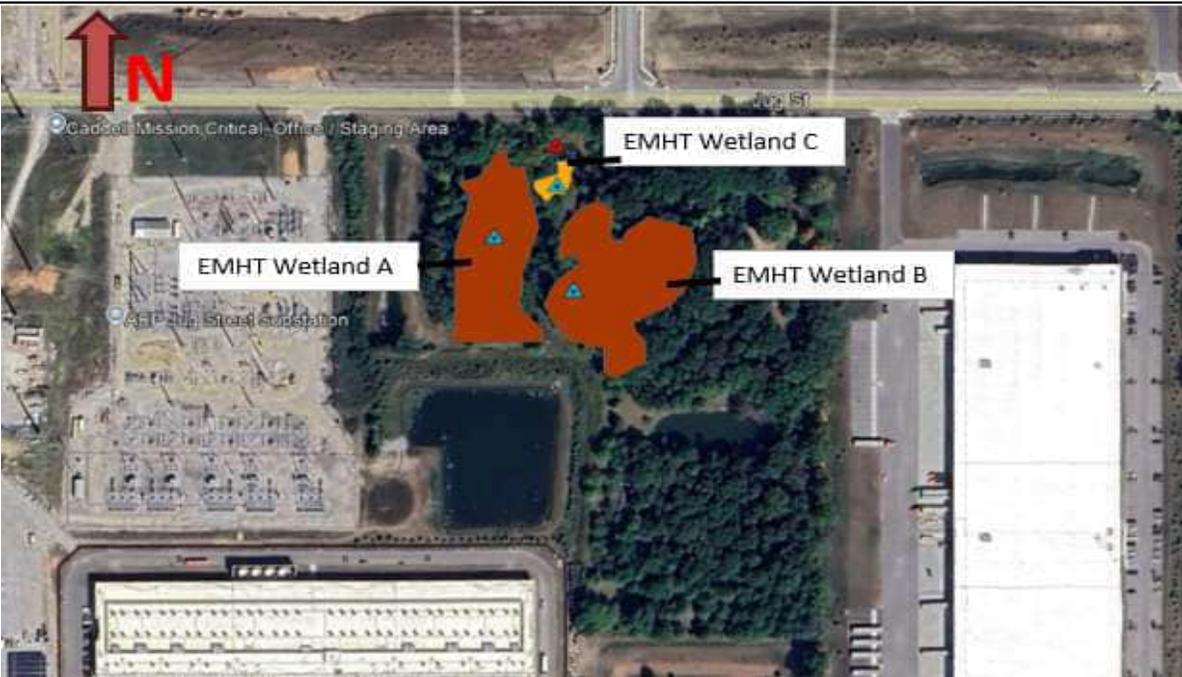
| | | | |
|------------|------------|-------------|------------|
| Choose one | Category 1 | *Category 2 | Category 3 |
|------------|------------|-------------|------------|

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

| | |
|---------------------------|--|
| Name: | Austin Sige |
| Date: | 10/18/2024 |
| Affiliation: | AECOM |
| Address: | 707 Grant Street, 5th Floor, Pittsburgh, PA 15219 |
| Phone Number: | 412-395-8888 |
| e-mail address: | austin.sige@aecom.com |
| Name of Wetland: | EMHT Wetland C |
| Vegetation Communit(ies): | PEM |
| HGM Class(es): | Depressional |

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



| | |
|---------------------------------|-----------------------|
| Lat/Long or UTM Coordinate: | 40.096464, -82.745782 |
| USGS Quad Name: | Jersey |
| County: | Licking |
| Township: | T2N R15W |
| Section and Subsection: | N/A |
| Hydrologic Unit Code: | 050600011503 |
| Site Visit: | 10/18/2024 |
| National Wetland Inventory Map: | See Figure 2 |
| Ohio Wetland Inventory Map: | See Figure 2 |
| Soil Survey: | See Figure 2 |
| Delineation report/map: | See Figure 3 |

| | | | |
|----------------------------------|----------------|---------------------------------------|------|
| Name of Wetland: | EMHT Wetland C | | |
| Wetland Size (delineated acres): | 0.08 | Wetland Size (Estimated total acres): | 0.08 |

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



Comments, Narrative Discussion, Justification of Category Changes:

EMHT Wetland C is a PEM, isolated wetland located in a woodland habitat. The source of hydrology to the area is precipitation. The vegetation is disturbed, as signs of tree clearing were observed.

| | | | |
|--------------|----|-----------|------------------|
| Final score: | 31 | Category: | 1 or 2 Gray Zone |
|--------------|----|-----------|------------------|

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland C |
|--------------------|-----------------------|

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.

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland C |
|--------------------|-----------------------|

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 aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs? | YES Wetland is a Category 3 wetland. Go to Question 8b | *NO Go to Question 8b |

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland C |
|--------------------|-----------------------|

| | | |
|---|--|--|
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a</p> | <p>*NO Go to Question 9a</p> |
| <p>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?</p> | <p>YES Go to Question 9b</p> | <p>*NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>*NO Go to Question 9c</p> |
| <p>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.</p> | <p>YES Go to Question 9d</p> | <p>NO Go to Question 10</p> |
| <p>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?</p> | <p>YES Wetland is a Category 3 wetland Go to Question 10</p> | <p>NO Go to Question 9e</p> |
| <p>9e Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?</p> | <p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p> | <p>NO Go to Question 10</p> |
| <p>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.</p> | <p>YES Wetland is a Category 3 wetland. Go to Question 11</p> | <p>*NO Go to Question 11</p> |
| <p>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.).</p> | <p>YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating</p> | <p>*NO Complete Quantitative Rating</p> |

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland C |
|--------------------|-----------------------|

| 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 viridicarinatum</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.

Wetland ID: EMHT Wetland C

Site: Jug IPP Project Rater(s): Austin Sige Date: 10/18/2024

0.0 0.0
max 6 pts subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
>50 acres (>20.2ha) (6 pts)
x 25 to <50 acres (10.1 to <20.2ha) (5 pts)
10 to <25 acres (4 to <10.1ha) (4 pts)
3 to <10 acres (1.2 to <4ha) (3 pts)
0.3 to <3 acres (0.12 to <1.2ha) (2pts)
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
x <0.1 acres (0.04ha) (0 pts)

Field ID:

EMHT Wetland C

Table with 2 columns: Metric Name, Score. Rows: Delineated acres: 0.08, Total acres: 0.08

5.0 5.0
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)
x MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

11.0 16.0
max 30 pts subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

- None or none apparent (12)
x 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)
x 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)
x Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

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

10.0 26.0
max 20 pts subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

- Excellent (7)
Very good (6)
Good (5)
x 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)
x Recovering (3)
x Recent or no recovery (1)

Check all disturbances observed

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

26.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: EMHT Wetland C

Site: Jug IPP Project **Rater(s):** Austin Sige **Date:** 10/18/2024

26.0
subtotal this page

Field ID:
EMHT Wetland C

0.0 **26.0**
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 5 Qualitative Rating (-10)

5.0 **31.0**
max 20pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated 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 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
- 2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
- 3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

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

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

31.0 **TOTAL (Max 100 pts)**
1 or 2 Gray Zone **Category**

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland C |
|--------------------|-----------------------|

ORAM Summary Worksheet

| | | Circle answer or insert score | Result |
|----------------------------------|---|--|--|
| Narrative Rating | Question 1. Critical Habitat | YES NO | If yes, Category 3. |
| | Question 2. Threatened or Endangered Species | YES *NO | If yes, Category 3. |
| | Question 3. High Quality Natural Wetland | YES NO | If yes, Category 3. |
| | Question 4. Significant bird habitat | YES *NO | If yes, Category 3. |
| | Question 5. Category 1 Wetlands | YES *NO | If yes, Category 1. |
| | Question 6. Bogs | YES *NO | If yes, Category 3. |
| | Question 7. Fens | YES *NO | If yes, Category 3. |
| | Question 8a. Old Growth Forest | YES *NO | If yes, Category 3. |
| | Question 8b. Mature Forested Wetland | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9b. Lake Erie Wetlands - Restricted | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9d. Lake Erie Wetlands – Unrestricted with native plants | YES NO | If yes, Category 3 |
| | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES NO | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 10. Oak Openings | YES *NO | If yes, Category 3 |
| Question 11. Relict Wet Prairies | YES *NO | If yes, evaluate for Category 3; may also be 1 or 2. | |
| Quantitative Rating | Metric 1. Size | 0 | |
| | Metric 2. Buffers and surrounding land use | 5 | |
| | Metric 3. Hydrology | 11 | |
| | Metric 4. Habitat | 10 | |
| | Metric 5. Special Wetland Communities | 0 | |
| | Metric 6. Plant communities, interspersion, microtopography | 5 | |
| | TOTAL SCORE | 31 | Category based on score breakpoints |

Complete Wetland Categorization Worksheet.

| | |
|--------------------|-----------------------|
| Wetland ID: | EMHT Wetland C |
|--------------------|-----------------------|

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 within 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.

| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

| |
|--|
| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing North |



| |
|---|
| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing East |



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

| |
|--|
| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing South |



| |
|---|
| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing West |



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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

W-AGS-001

Date:
June 11, 2024

Description:
PEM wetland
Category 1
Facing Soils



**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing North



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing East



**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing South



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing West



**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing Soils



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

**W-AGS-003/
Wetland B**

Date:
October 18, 2024

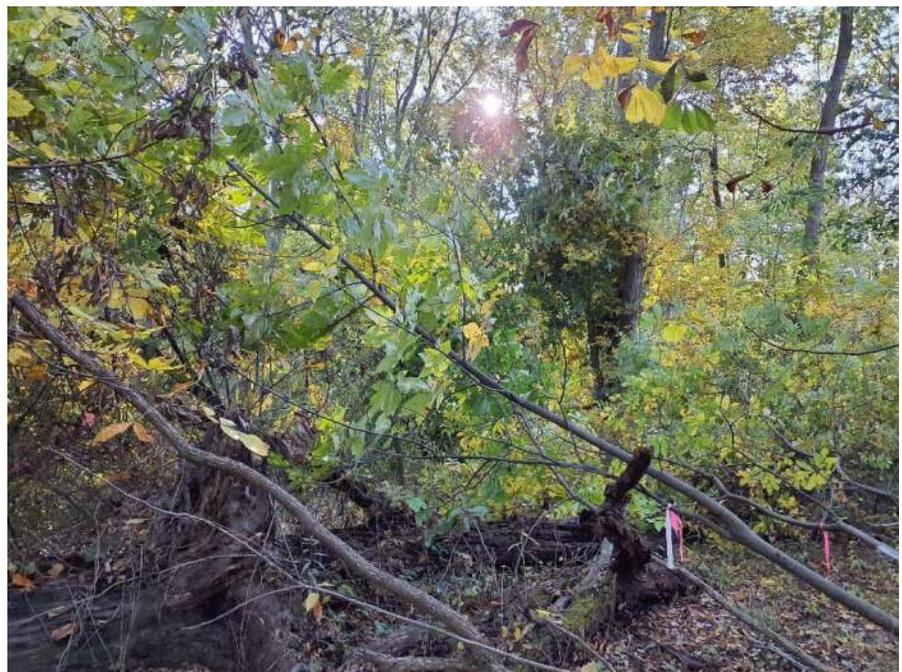
Description:
PFO wetland
Category 2
Facing North



**W-AGS-003/
Wetland B**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing East



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

**W-AGS-003/
Wetland B**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing South



**W-AGS-003/
Wetland B**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing West



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-003/ Wetland B |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing Soils |



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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing North |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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**W-AGS-004/
Wetland C**

Date:
October 18, 2024

Description:
PEM wetland
Category 2
Facing East



**W-AGS-004/
Wetland C**

Date:
October 18, 2024

Description:
PEM wetland
Category 2
Facing South



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing West |



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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing Soils |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-MRK-004 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing North | |

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| W-MRK-004 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing East | |

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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-MRK-004 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing South | |

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| W-MRK-004 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing West | |

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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-MRK-004 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing Soils |



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| W-MRK-005 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing North |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-MRK-005 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing East | |

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| W-MRK-005 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing South | |

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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-MRK-005 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing West |



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| W-MRK-005 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing Soils |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing North |



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| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing East |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing South |



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| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing West |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-001 |
| Date: June 11, 2024 |
| Description: PEM wetland Category 1 Facing Soils |



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| W-AGS-002/ Wetland A |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing North |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing East



**W-AGS-002/
Wetland A**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing South



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-002/ Wetland A |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing West |



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| W-AGS-002/ Wetland A |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing Soils |



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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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**W-AGS-003/
Wetland B**

Date:
October 18, 2024

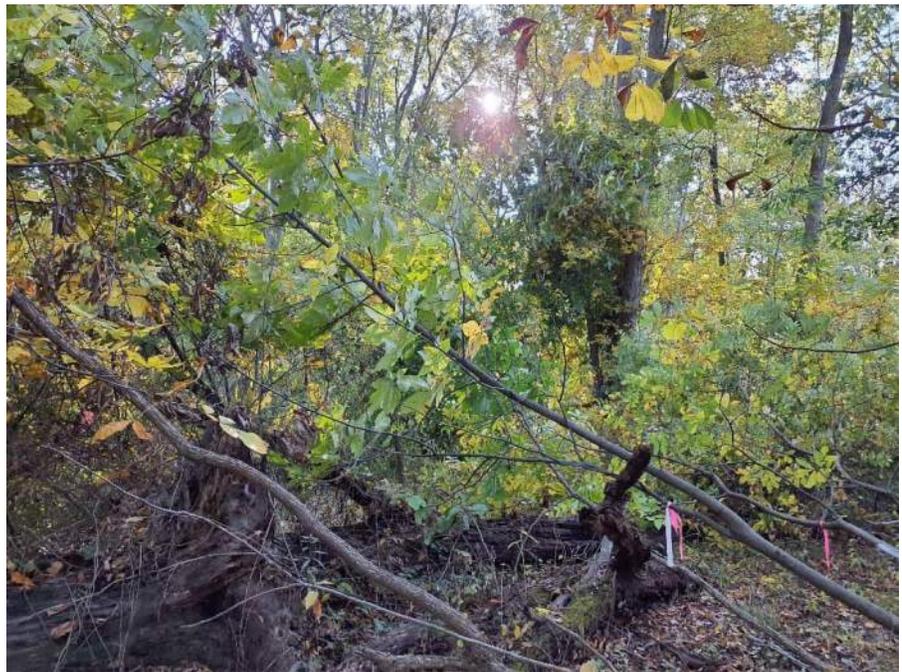
Description:
PFO wetland
Category 2
Facing North



**W-AGS-003/
Wetland B**

Date:
October 18, 2024

Description:
PFO wetland
Category 2
Facing East



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-003/ Wetland B |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing South |



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| W-AGS-003/ Wetland B |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing West |



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| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-003/ Wetland B |
| Date: October 18, 2024 |
| Description: PFO wetland Category 2 Facing Soils |



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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing North |



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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing East |



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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing South |



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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing West |



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|--|
| W-AGS-004/ Wetland C |
| Date: October 18, 2024 |
| Description: PEM wetland Category 2 Facing Soils |



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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

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|--|---|
| W-MRK-004 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing North | |

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|---|--|
| W-MRK-004 |  |
| Date: November 14, 2022 | |
| Description: PEM wetland Category 1 Facing East | |

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|----------------------------|--|--------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No. 60727735 |
|----------------------------|--|--------------------------------|

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| W-MRK-004 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing South |



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|---|
| W-MRK-004 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing West |

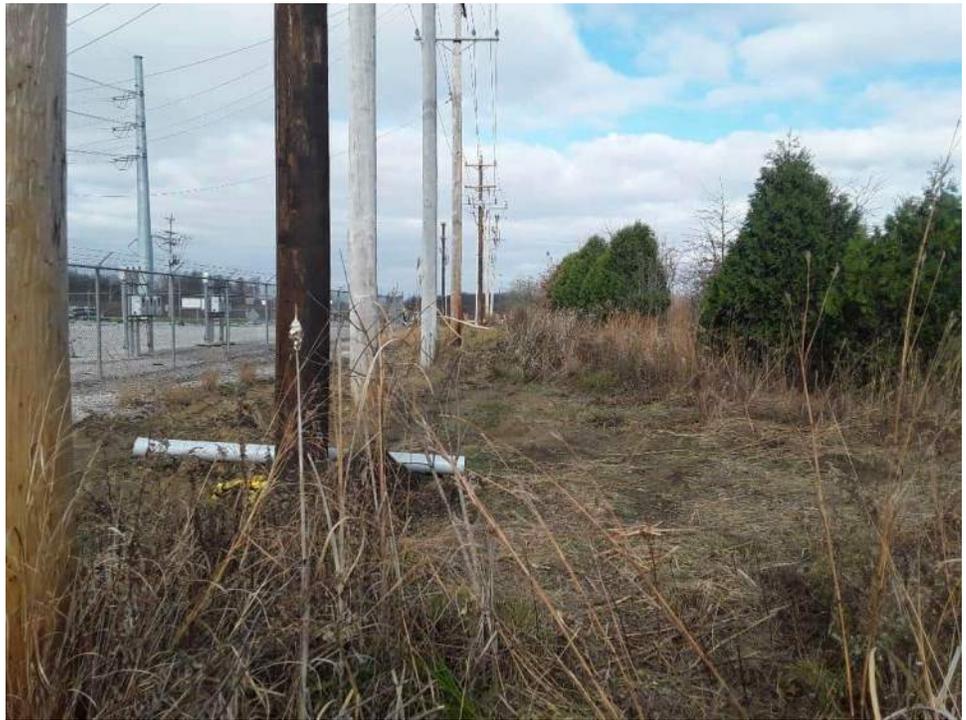


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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
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| W-MRK-004 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing Soils |



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| W-MRK-005 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing North |



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|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

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|---|
| W-MRK-005 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing East |



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| W-MRK-005 |
| Date: November 14, 2022 |
| Description: PEM wetland Category 1 Facing South |



Client Name:

AEP

Site Location:

Jug Street TransCo Work Project

Project No.

60727735

W-MRK-005

Date:

November 14, 2022

Description:

PEM wetland

Category 1
Facing West



W-MRK-005

Date:

November 14, 2022

Description:

PEM wetland

Category 1
Facing Soils



APPENDIX C
POND PHOTOGRAPHIC RECORD

Client Name:

AEP

Site Location:

Jug Street TransCo Work Project

Project No.

60727735

PH-01

Date:

November 14, 2022

Description:

P-AGS-001

Facing North



APPENDIX D
UDF PHOTOGRAPHIC RECORD

| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

PH-01

Date:
November 14, 2022

Description:
UDF-AGS-001
Facing upstream



PH-02

Date:
November 14, 2022

Description:
UDF-AGS-001
Facing downstream



| | | |
|----------------------------|--|--------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No. 60727735 |
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| PH-03 |
| Date: November 14, 2022 |
| Description: UDF-AGS-001 Facing substrate |



APPENDIX E

HABITAT PHOTOGRAPHIC RECORD

| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

PH-01

Date:
November 14, 2022

Description:
Wetland Habitat
Recently disturbed W-
MRK-005

Facing North



PH-02

Date:
November 14, 2022

Description:
Old Field

Facing North



| | | |
|----------------------------|--|---------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No.: 60727735 |
|----------------------------|--|---------------------------------|

PH-03

Date:
November 14, 2022

Description:
Wetland Habitat
Recently disturbed W-
MRK-004

Facing North



PH-04

Date:
June 11, 2024

Description:
Landscaped Area facing
pond feature P-AGS-
001

Facing West



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|----------------------------|--|--------------------------------|
| Client Name: AEP | Site Location: Jug Street TransCo Work Project | Project No. 60727735 |
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| PH-05 |
| Date: June 11, 2024 |
| Description: Woodland Facing West |



APPENDIX F

AGENCY RESPONSE LETTERS



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

May 3, 2024

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

Re: 24-0560_AEP Jug Street Transco Work

Project: The proposed project involves temporary access along the east side of the existing Jug Station to replace one existing structure along a 138 kilovolt (KV) Independent Power Producer (IPP) transmission line that ties in directly to the existing Jug Station.

Location: The proposed project is located in the City of New Albany and Jersey Township, Licking County, Ohio.

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

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

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

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible.

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

The project is within the of range the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

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

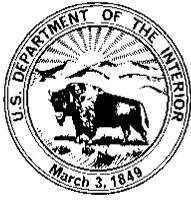
Thank you for affording us the opportunity to comment.

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



April 10, 2024

Project Code: 2024-0067033

Dear Joshua Holmes:

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

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

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

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

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

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

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

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

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

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Erin Knoll".

Erin Knoll
Field Office Supervisor

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

APPENDIX G

2024 JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING



OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING MAY 2024

This document has been updated with new state guidance for the 2024 field season.

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

Agency Contacts:

ODNR-DOW Permit Coordinator: Wildlife.Permits@dnr.ohio.gov, (614) 265-6315

ODNR-DOW Bat Survey Coordinator: Eileen Wyza, Eileen.Wyza@dnr.ohio.gov, (614) 265-6764

USFWS OHFO Endangered Species: Angela Boyer, angela_boyer@fws.gov, (614) 416-8993, ext.122

Covid-19 Guidance:

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

Ohio Mist-net Surveys:

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

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

To assess project areas for presence or probable absence of the state and federally listed Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) during summer residency, the USFWS developed the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024). This protocol may also be used for the tricolored bat (*Perimyotis subflavus*) which is state endangered and proposed to be federally endangered. **With minor modifications referenced below**, it can also be used in Ohio for the 2024 field season and includes surveying for the state-listed little brown bat (*Myotis lucifugus*).

According to the updated federal range-wide guidelines, presence/probable absence net surveys for northern long-eared bats or federally-proposed tricolored bats shall incorporate either 10 net nights per square 0.5 kilometer (123

acres) of project area, or four net nights per kilometer for linear projects. Presence/probable absence net surveys for Indiana bats shall incorporate six net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. If a project area is eligible for a presence/probable absence survey for both Indiana bats and northern long-eared bats or tricolored bat, following the northern long-eared/tricolored bat level of effort will qualify as a presence/ probable absence survey for the three species. However, if a project area is eligible for a presence/absence survey for the three species, following the Indiana bat level of effort will not qualify the survey for a northern long-eared bat or tricolored bat presence/probable absence survey. Please note that the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024) requires that a minimum of two (2) biologists (e.g., one permitted and one technician) must be on-site for every four (4) net-sets being operated. Exceptions to on-site minimum staffing levels may be allowed under extenuating circumstances, provided written justification is included in the proposed survey study plan and subsequently approved by the OHFO and ODNR-DOW.

Due to the reclassification of the northern long-eared bat to federally endangered on March 31, 2023, the northern long-eared bat 4(d) rule has been nullified. There is a new online tool in the USFWS's Information for Planning and Consultation (IPaC) website that allows project proponents to utilize the optional Northern Long-eared Bat Rangewide Determination Key (Dkey). **The Dkey cannot be used to replace consultation with ODNR-DOW.** Project proponents should coordinate directly with the ODNR-DOW for project technical assistance for all federally listed species, including the Indiana bat and northern long-eared bat. **OHFO discourages the use of the Dkey for Ohio projects.** Contacting OHFO directly (ohio@fws.gov) for technical assistance for both the northern long-eared bat and Indiana bat is the more efficient process.

The tricolored bat is listed as endangered by ODNR-DOW and has been officially proposed for federal listing as endangered. The USFWS is scheduled to publish a final rule on the tricolored bat's status by the end of September 2024. Therefore, in addition to coordinating with ODNR-DOW regarding the tricolored bat, we recommend that project proponents also coordinate with the OHFO. The USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024) allows presence/absence surveys for the tricolored bat that use the northern long-eared bat level of effort.

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

Ohio Acoustic Surveys:

Acoustic bat surveys for presence/absence will be accepted by ODNR-DOW for the 2024 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024) with the following exceptions:

- Ohio survey dates are June 1 – August 15
- After conducting automated analyses using one or more of the currently available 'approved' acoustic bat ID programs¹, qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis*, *M. septentrionalis*², *M. lucifugus*², and *P. subflavus*²) must be completed.
- **All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the highest minimum acoustic nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.**

¹ <https://www.fws.gov/media/indiana-bat-summer-survey-guidance>

² State listing as endangered effective July 1, 2020

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

Combined Mist-netting and Acoustic Surveys:

ODNR-DOW will accept the USFWS pilot survey option of combining mist-netting and acoustic surveys for traditional survey sites (e.g., 123-acre area) detailed in Appendix I of the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (2024). All presence/absence combined mist-net and acoustic surveys conducted for state listed bat species should follow the highest minimum level of effort set forth by the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Before Field Season:

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

During Field Season:

- Prior to initiation of field work (a minimum of two weeks in advance), permittees must provide proposed mist netting plans to USFWS and ODNR-DOW in the form of an e-mail letter to the USFWS OHFO and copy to the ODNR-DOW Bat Survey Coordinator. Plans must be reviewed and approved by USFWS OHFO and ODNR-DOW before ANY surveys take place. Study plans must specify objectives, location details, dates of proposed work, and all other relevant details. **Study plans must also include a USFWS Project Code. Project Codes can only be obtained by requesting an official species list through the USFWS's Information for Planning and Consultation (IPaC) website: (<https://ipac.ecosphere.fws.gov/>).** When handling bats, you must strictly adhere to the current WNS Decontamination Protocol (current version can be found at <https://www.whitenosesyndrome.org/topics/decontamination>). Clothing, boots, gear, and equipment should all be thoroughly decontaminated between nights, as well as between netting sites.
- Request bat bands at least two weeks in advance of needing them. Bat bands can be obtained by e-mailing the ODNR-DOW Bat Survey Coordinator with how many bands are needed, current permit number, sizes, and a mailing address. Bands will not be issued until your permits are valid. We have three sizes of bands—2.4 mm, 2.9 mm, and 4.2 mm. The 2.4 mm split metal bat ring made of aluminum alloy is suitable for banding tricolored bats. 2.9 mm bands are suitable for Indiana, northern long-eared, and little brown bats. The larger 4.2 mm band is suitable for silver-haired (*Lasionycteris noctivagans*), big brown (*Eptesicus fuscus*), and hoary (*Lasiurus cinereus*) bats. You must band all Indiana, northern long-eared, little brown, and tricolored bats with ODNR-DOW bands; therefore, you should not be in the field without the 2.4 mm and 2.9 mm sized bands.
NOTE: While ODNR-DOW obtains 2.9 mm bands per new 2024 USFWS guidelines, banding of endangered *Myotis* species should not be done until 2.9 mm bands are received. Please watch for updates from the Wildlife Permits email and request 2.9 mm bands when they become available.
- Only individuals who are named on the ODNR-DOW endangered species letter portion of the permit and on the corresponding federal bat permit may conduct and oversee mist-net surveys. Trained assistants may work on permitted bat activities under the direct and on-site supervision of a named permittee. All bat IDs must be verified by a named permittee. If an Indiana bat, northern long-eared bat, and/or tricolored bat is captured, the permittee shall notify the USFWS and the ODNR-DOW Bat Survey Coordinator referenced

above within 48 hours via email. If a little brown bat is captured, notify the ODNR-DOW Bat Survey Coordinator only within 48 hours via email. Reports of listed bat captures should include specific information such as spatial location of capture, band information, radio-transmitter frequency information, sex, reproductive status, and age of individual.

- For presence/absence surveys, ODNR-DOW requires all female and juvenile state endangered and threatened bat species (Indiana, northern long-eared, little brown, and tricolored bat) be radio-tracked if caught, in accordance with methods outlined in Appendix D of USFWS 2024 Range-wide Indiana Bat Summer Survey Guidelines.

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

After Field Season:

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

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

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

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

- Both the DOW and USFWS should be contacted for guidance on projects occurring:
 - Within 5 miles of known or potential Indiana bat and/or northern long-eared bat hibernacula.
 - Within 3 miles of known or potential tricolored bat hibernacula
- Only ODNR-DOW should be contacted if a project occurs within 5 miles of known or potential little brown bat hibernacula.

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

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

OR

- Conduct a field habitat assessment to determine if a potential hibernaculum(a) is present within the action area. We encourage impacts to ledges and rock outcroppings be avoided. If impacts cannot be avoided, features should be evaluated for potential roosting characteristics such as recesses, overhangs, and crevices.

- **NOTE:** The USFWS Range-wide Indiana Bat Guidelines, Appendix H, contains instructions for completing a habitat assessment for Indiana bat, but can be applied to other bat species.

Step 2: Conduct, a presence/absence survey following current ODNR-DOW guidelines, where applicable.

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

- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 5 miles of an Indiana bat or little brown bat capture or 3 miles of a northern long-eared bat and/or tricolored bat capture if a roost is not located.
- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within a minimum of 2.5 miles of an Indiana bat or little brown bat roost or 1.5 miles of a northern long-eared bat and/or tricolored bat roost tree if located.
- Recommended tree clearing dates within capture record buffers are October 1 – March 31

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

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

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

FREQUENTLY ASKED QUESTIONS

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

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

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

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

Level of effort for all state-listed endangered bat species: follow highest minimum detector nights as outlined in the federal guidance for northern long-eared bat and tricolored bat.

Northern Long-eared Bat and Tricolored Bat Level of Effort:

Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat

Non-linear projects: a minimum of 10 detector nights per 123 acres (0.5 km²) of suitable summer habitat.

At least 2 detector locations per 123 acre "site" shall be sampled until at least 10 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 5 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 5 nights each (can sample the same location or move within the site)
- 1 detector for 10 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

Indiana Bat Level of Effort:

Linear projects: a minimum of 2 detector nights per km (0.6 miles) of suitable summer habitat

Non-linear projects: a minimum of 6 detector nights per 123 acres (0.5 km²) of suitable summer habitat.

At least 2 detector locations per 123 acre "site" shall be sampled until at least 6 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 3 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 3 nights each (can sample the same location or move within the site)
- 1 detector for 6 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

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

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

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

Net surveys for Indiana bat presence/probable absence shall incorporate, at a minimum, either six net nights net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. For

linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This does not allow for two net nights on a single night for surveys.

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

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

When can acoustic or net surveys occur in Ohio?

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

Can a presence/probable absence survey be conducted within a known bat capture/detection buffer?

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

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

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

Where do I get bands?

If you need bands, email the ODNR-DOW Bat Survey Coordinator at least two weeks in advance with your current ODNR permit number, how many bands in each size (2.4 mm, 2.9 mm, and 4.2 mm) you will need this season, and a current address to ship the bands.

Do I have to band every bat?

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

NOTE: While ODNR-DOW obtains 2.9 mm bands per new 2024 USFWS guidelines, banding of endangered *Myotis* species should not be done until 2.9 mm bands are received. Please watch for updates from the Wildlife Permits email and request 2.9 mm bands when they become available.