

Letter of Notification Kileville – Jerome 138-kV Transmission Line Project



An **AEP** Company

PUCO Case No. 23-1009-EL-BLN

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

Submitted by:
Ohio Power Company

November 6, 2023

Letter of Notification

Kileville-Jerome 138-kV Transmission Line Project

4906-6-05

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

4906-6-05(B) General Information

B(1) Project Description

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

The Company proposes the Kileville-Jerome 138-kV Transmission Line Project (“Project”) in Jerome Township, Union County, Ohio. The Project involves building approximately 2.4 miles of 138-kV transmission line utilizing steel monopole structures between the Kileville Substation (approved in OPSB Case Number 22-1119-EL- BLN) and the Jerome Substation (approved in OPSB Case Number 23-0531-EL-BLN). The Project between the Kileville Substation and Structure 12 will be single circuit (approximately 1 mile) and Structure 12 to Jerome Substation will be double circuit (approximately 1.4 miles). The Project will require the Company to obtain new right-of-way.

The location of the proposed transmission line (“Project Area”) is shown in **Exhibit 1** and **Exhibit 2** in **Appendix A**.

The Project meets the requirements for a Letter of Notification (LON) because it is within the types of projects defined by Item (1)(d)(ii) of 4906-1-01 *Appendix A Application Requirement Matrix For Electric Power Transmission Lines* of which states:

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

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

(ii) Any portion of the line is on property owned by someone other than the specific customer or applicant.

The Project has been assigned PUCO Case No. 23-1009-EL-BLN.

B(2) Statement of Need

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

A transmission customer is requesting 138 kV service to a site north of Ohio Power Company's proposed Kileville Station (approved in Case No. 22-1119-EL-BLN) near Jerome Township, Ohio. The customer's load is expected to be 239 MW. To meet the customer's need, the Company will construct approximately 2.4 miles of new, double-circuit 138 kV line (a portion of line will be single circuit) from the proposed Kileville 138 kV Station to the new Jerome Station (approved in OPSB Case Number 23-0531-EL-BLN), which is the subject of this OPSB filing. Also, the Company will construct another, approximately 1.6 miles of 138 kV double-circuit line, which will tie the existing Amlin – Hyatt 138 kV line to the Jerome Station. Service to the customer-owned station on the site will be provided by constructing four new, less than 0.1 mile single circuit 138 kV lines from the Company's proposed Jerome Station to the customer's distribution stepdown station.

Additional facilities required to interconnect customers in the area will be filed separately with OPSB and include rerouting the Hyatt-Hayden 345 kV line, constructing 1.1 miles of double circuit 345 kV line and constructing a new Celtic Station.

Failure to move forward with the proposed Project will result in Ohio Power Company's inability to serve the customer's load expectations, thereby jeopardizing the customer's plans in the area (239 MW peak).

The need for the customer driven supplemental project was presented and reviewed with stakeholders during the February 17, 2023 PJM SRRTEP meeting. The solution was presented and reviewed with stakeholders during the May 9, 2023 PJM TEAC meeting, see **Appendix B**. This Project was not included in the Company's 2023 Long Term Forecast Report, as solution had not been identified at the time of filing.

B(3) Project Location

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

The Project is in Union County, Ohio. **Exhibit 1** in **Appendix A** shows the Project area on a United States Geological Survey (USGS) Hilliard and Shawnee Hills topographic quadrangle map in relation existing and proposed facilities. **Exhibit 2** in **Appendix A** identifies the Project on aerial imagery.

B(4) Alternatives Considered

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

The Company is supporting customer development in a quickly developing area. Conceptual routes were developed within the Project area which tried to maximize distance from residential properties, follow

property lines, and avoid impacts to future development in the area. Existing land use in the Project Area is primarily agricultural but is quickly developing with commercial and industrial facilities. A small number of property owners were identified within the study area and the Company communicated with each landowner individually to determine the most suitable location for the proposed transmission line based on current and future development plans. The proposed route primarily follows parcel lines to reduce impacts to current agricultural operations and future development. No cultural resource, wetland, or stream impacts are expected and discussed further in Section B(10)(f), below. Based on the information gathered, the Company selected the proposed route as shown on **Exhibit 2** in **Appendix A**, which represents the most suitable location and most appropriate solution for the Project.

B(5) Public Information Program

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

The Company will inform affected property owners, tenants, and local officials about this Project through several methods. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of Ohio Administrative Code (“OAC”) Section 4906-6-08(A)(1-6). Further, the Company will mail a letter, via first class mail, to affected landowners, tenants, contiguous landowners, and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (<http://aeptransmission.com/ohio/>) which provides the public access to an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library and select municipal officials in each political subdivision for this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project area.

B(6) Construction Schedule

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

Construction of the Project is planned to start in February 2024 with a proposed in-service date of June 2024.

B(7) Area Map

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

Exhibit 1 in **Appendix A** provides the proposed Project area on a map of 1:24,000-scale (1-inch equals 2,000 feet) on the Hilliard and Shawnee Hills USGS 7.5-minute topographic map of the Project area.

Exhibit 2 in **Appendix A** shows the Project area on ESRI World Imagery at a scale of 1:10,000-scale (1-inch equals 500 feet). The ESRI World Imagery is dated March 2023.

Exhibit 2 in **Appendix A** shows the alignment of the proposed transmission line on an aerial image with clearly marked streets, roads, and highways. To visit the Project from Columbus, take I-70 West and take exit 93 onto I-270 North. Take I-270 North for approximately 9.0 miles. Take exit 17B onto OH-161 West/US-33 West, then take exit 106 for OH-161 West. Turn left onto OH-161 West/Post Road and take the first exit at the traffic circle onto OH-161 West. Keep right onto Industrial Parkway/Old US Highway 33 then take the second exit at the traffic circle and stay on Industrial Parkway/Old US Highway 33. Turn left onto Warner Road and Kileville Station is on the left (south) at geographic coordinates 40.116909, -83.198864.

B(8) Property Agreements

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

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

Property Parcel Number	Agreement Type	Easement Agreement/ Option Obtained
1500260041000	New Easement	No
1500280062000	New Easement	No
1500270091000	New Easement	No
1500280061000	New Easement	No
1500300200000	New Easement	No
1500260051000	New Easement	No
1500260030000	New Easement	No
1500200110010	New Easement	No
1500270090010	New Easement	No

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

B(9) Technical Features

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

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

The transmission line construction is estimated to include the following.

Voltage:	138 kV
Conductors:	2-bundle 954 kcmil 54/7 Strands CARDINAL ACSS
Static Wire:	144 ct OPGW Fiber
Insulators:	Polymer
ROW Width:	Kileville Station – Structure #18: 80 feet Structure #18 – Jerome Station: 100 feet
Structure Type:	(18) Eighteen steel monopole braced posts (12) Twelve steel monopole custom deadends

B(9)(b) Electric and Magnetic Fields

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

B(9)(c) Project Costs

The estimated capital cost of the project.

The capital cost estimate for the Project, which is comprised of applicable tangible and capital costs, is approximately \$15,253,000 using a Class 4 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the Ohio Power Company FERC formula rate (Attachment H-14 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Economic Impacts

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

B(10)(a) Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is in Jerome Township, Union County, Ohio. Land use observed within the Project area includes agricultural fields and commercial and residential properties. However, large commercial and industrial developments are currently under development in this area. The Project is anticipated to require approximately 3.6 acres of tree clearing. There are no schools, hospitals, places of worship, or airports within 1,000 feet of the Project's proposed transmission line alignment.

B(10)(b) Agricultural Land Information

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

The Project crosses approximately 10 acres of agricultural land. Many of the agricultural parcels will be developed and no longer used for agriculture. The Union County Auditor's office was contacted to obtain information about Agricultural District Lands on September 20, 2023 and no Agricultural District Lands are within the potential disturbance area of the Project.

B(10)(c) Archaeological and Cultural Resources

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

A Phase I Archaeological Investigation and a History Architecture Investigation was conducted in May 2023 and provided to the Ohio State Historic Preservation Office (SHPO) for consultation. These investigations did not result in the identification of any archaeological deposits or significant architectural resources within the project's area of potential effect. There were no history/architectural resources identified as eligible or potentially eligible for inclusion on the NRHP. The SHPO responded on June 15, 2023, and agreed that the Project as proposed will have no effect on historic properties. Therefore, no further coordination with the SHPO is necessary. The SHPO coordination letter is provided in **Appendix D**.

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

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC00006. The Company will also coordinate storm water permitting needs with local government agencies as necessary. The Company will implement and maintain best management practices as outlined in the project-specific Stormwater Pollution Prevention Plan to minimize erosion and sediment runoff to protect surface water quality during storm events.

The Company's consultant conducted a stream and wetland delineation survey within the Project area and identified one wetland, two streams, and three ponds. Project construction activities are not expected to result in the discharge of fill material in the wetland, streams or ponds identified, therefore a permit with the U.S. Army Corps of Engineering and/or the Ohio Environmental Protection Agency (OEPA) is not anticipated for the Project.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Numbers 39159C0390D (effective 2008-12-16) and 39159C0480D (effective 2008-12-16), the Project is not within the boundaries of any 100-year floodplains or floodways and therefore will not require any floodplain permitting.

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

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

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

Coordination letters were sent to U.S. Fish and Wildlife Service (USFWS) and Ohio Department of Natural Resources–Division of Wildlife (ODNR-DOW). The USFWS response was received on March 2, 2023, and ODNR-DOW's response was received on March 8, 2023. Copies of the agencies' correspondence letters are provided in **Appendix D**.

Based on consultation from the USFWS, the Project area lies within range of two federally listed species: the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (*Myotis septentrionalis*). The USFWS indicated that the Project is in the vicinity of one or more confirmed records of Indiana bats, and recommends avoiding tree removal whenever possible. If no caves or abandoned mines are present and trees greater than or equal to 3 inches dbh cannot be avoided, USFWS recommends removal only occur between October 1 and March 31. A desktop habitat assessment was conducted and no active or abandoned caves or mines were identified in the Project area. The Company anticipates the need to clear trees for the Project, which will occur within the USFWS recommendation for seasonal tree clearing between October 1 to March 31.

According to the ODNR-DOW response letter, the Natural Heritage Database has record of four state listed species within one mile of the Project centerline. These species include the state endangered king rail (*Rallus elegans*), the state threatened least bittern (*Ixobrychus exilis*), and two state species of concern: the sora rail (*Porzana carolina*) and the Virginia rail (*Rallus limicola*).

ODNR-DOW stated that the Project is within the vicinity records for the Indiana bat and that the entire state of Ohio is within the range of the northern long-eared bat, the little brown bat (*Myotis lucifugus*), and the tricolored bat (*Perimyotis subflavus*). If trees must be cut, ODNR-DOW recommended cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices holes or cavities, as well as trees with diameter at breast height (dbh) \geq 20 inches. ODNR-DOW also recommended that a desktop habitat assessment be conducted, followed by a field assessment if needed, to determine if there are potential hibernaculum(a) present within 0.25 miles of the Project area. The Company's consultant completed a desktop habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines. No active or abandoned mines, areas with karst geology, or areas with karst features were identified within 0.25-mile buffer of the Project area. In addition, no potential bat hibernacula were observed within the Project area during the field surveys. However,

potentially suitable summer foraging and roosting habitat was observed within the Project area. The Company anticipates the need for tree clearing, which will be conducted between October 1 and March 31.

According to the ODNR-DOW response letter, the Project is within the range of seven protected mussel species: the federally endangered snuffbox (*Epioblasma triquetra*), federally endangered northern riffleshell (*Epioblasma torulosa rangiana*), federally endangered clubshell (*Pleurobema clava*), federally endangered rayed bean (*Villosa fabalis*), federally threatened rabbitsfoot (*Quadrula cylindrica cylindrica*), state endangered elephant-ear (*Elliptio crassidens crassidens*), and state threatened pondhorn (*Uniomerus tetralasmus*). Due to the location and that there is no in-water work proposed in a perennial stream, ODNR-DOW stated that this Project is not likely to impact these mussel species.

According to the ODNR-DOW response letter, the Project is within the range of the state endangered American bittern (*Botaurus lentiginosus*). This bird species nests in large wetlands with dense vegetation. Construction should be avoided in this type of habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, ODNR-DOW stated that the Project is not likely to impact this species. No suitable habitat was observed within the Project area, therefore no impacts to American bittern are anticipated.

According to the ODNR-DOW response letter, the Project is within the range of the state endangered king rail (*Rallus elegans*), which nests in marsh vegetation. Construction should be avoided in this type of habitat during the species' nesting period of May 1 to July 31. If wetland habitat will not be impacted, ODNR-DOW stated that the Project is not likely to impact this species. No suitable habitat was observed within the Project area, therefore impacts to the king rail are not anticipated.

ODNR-DOW stated that the Project is within range of the state threatened least bittern (*Ixobrychus exilis*), which utilizes dense emergent wetlands with semiaquatic vegetation interspersed with woody vegetation and open water. ODNR-DOW indicated that construction in this habitat should be avoided during the least bittern nesting period, April 15 through July 31. ODNR-DOW stated that if this type of habitat will not be impacted, the Project is not likely to impact this species. No suitable habitat was observed within the Project area, therefore impacts to the least bittern 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.

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

The Company's consultant conducted a wetland and stream delineation survey in the Project study area and prepared an Ecological Survey Report, which is provided in **Appendix E**. The survey of the Project

area identified one wetland, two streams, and three ponds. The Project construction activities are not expected to result in discharge of fill in any of the delineated features. Streams will either be avoided by aerially spanning or bridged (no work below the ordinary high water mark), and the wetland and ponds will be avoided.

Based on the FEMA FIRM Map Numbers 39159C0390D (effective 2008-12-16) and 39159C0480D (effective 2008-12-16), the Project is not within the boundaries of any 100-year floodplains or floodways.

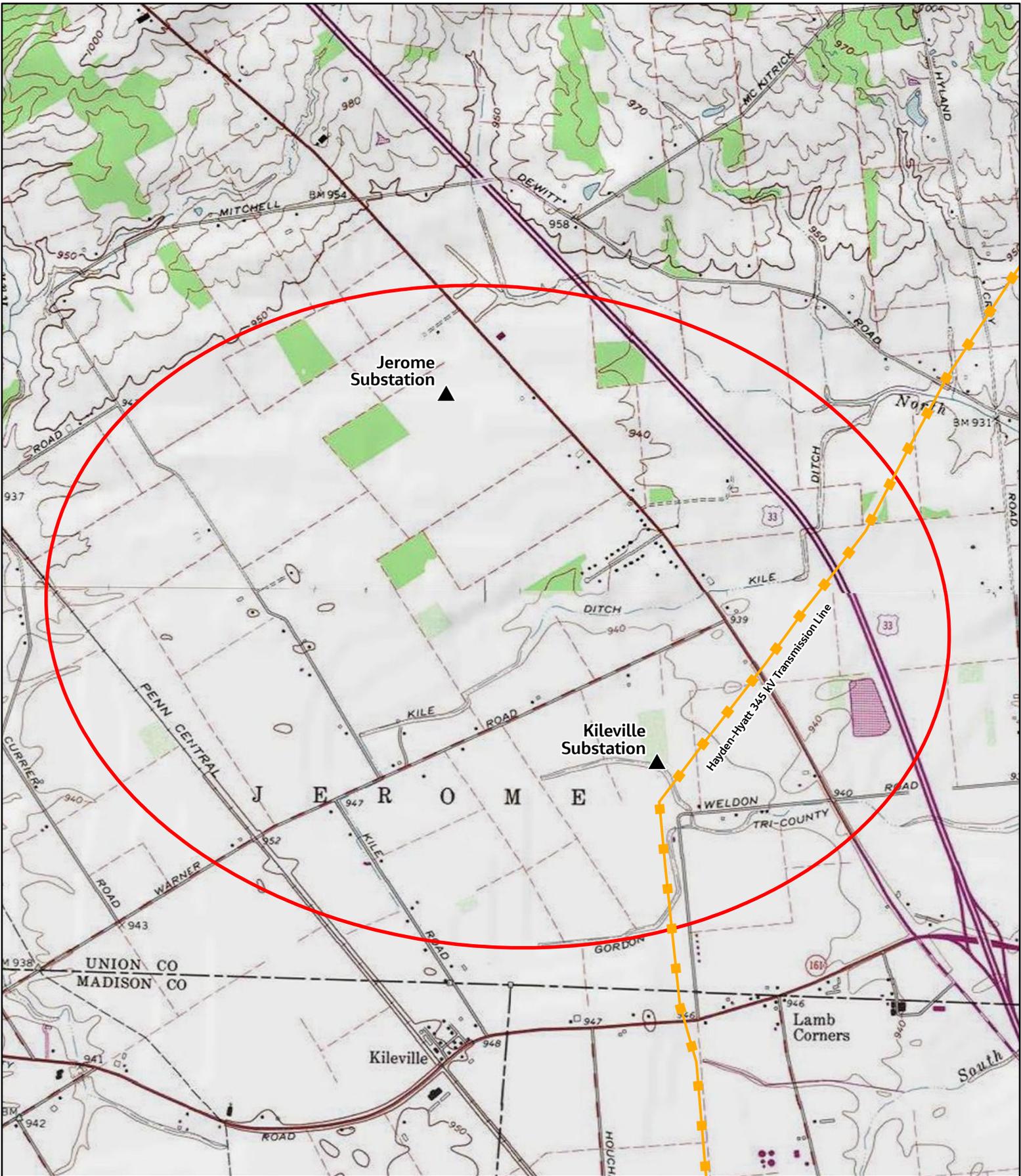
B(10)(g) Unusual Conditions

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.

LETTER OF NOTIFICATION KILEVILLE – JEROME 138-KV TRANSMISSION LINE PROJECT

Appendix A Project Maps



Legend

-  Existing Substation
-  Existing 345 kV Transmission Line
-  Project Area

Base Map Source:
USGS Topographic Map

Coordinate System
State Plane Ohio North
FIPS 3401 (US Feet)
Datum: NAD 1983
Scale: 1:24,000

N


10/11/2023



Exhibit 1
Topographic Overview

Killeville-Jerome
138 kV Transmission Line Project
Union County, OH


An AEP Company

0 2,000 4,000

US Feet



-  Existing Substation
-  Proposed Kileville-Jerome 138kV Transmission Line
-  Existing 345 kV Transmission Line
-  Roadways
-  NHD Stream
-  NWI Wetlands
-  Parcel Boundaries

Base Map Source:
ESRI World Imagery

Coordinate System
State Plane Ohio North
FIPS 3401 (US Feet)
Datum: NAD 1983
Scale: 1:10,000

N

10/10/2023



Exhibit 2
Aerial Overview

Kileville-Jerome
138 kV Transmission Line Project
Union County, OH



An AEP Company

0 500 1,000



Feet

I:\dct\us01\GIS\pm\AEP\Jerome_Substation\Mapes\Report\LOW\Kileville_Jerome_Aerial.aprx

LETTER OF NOTIFICATION KILEVILLE – JEROME 138-KV TRANSMISSION LINE PROJECT

Appendix B Long Term Forecast Report and PJM Solution Submittal

AEP Transmission Zone M-3 Process Jerome

Need Number: AEP-2021-OH049

Process Stage: Solution Meeting 5/9/2023

Previously Presented: Needs Meeting 7/16/2021, Need Meeting 9/17/2021 & Need Meeting 2/17/2023

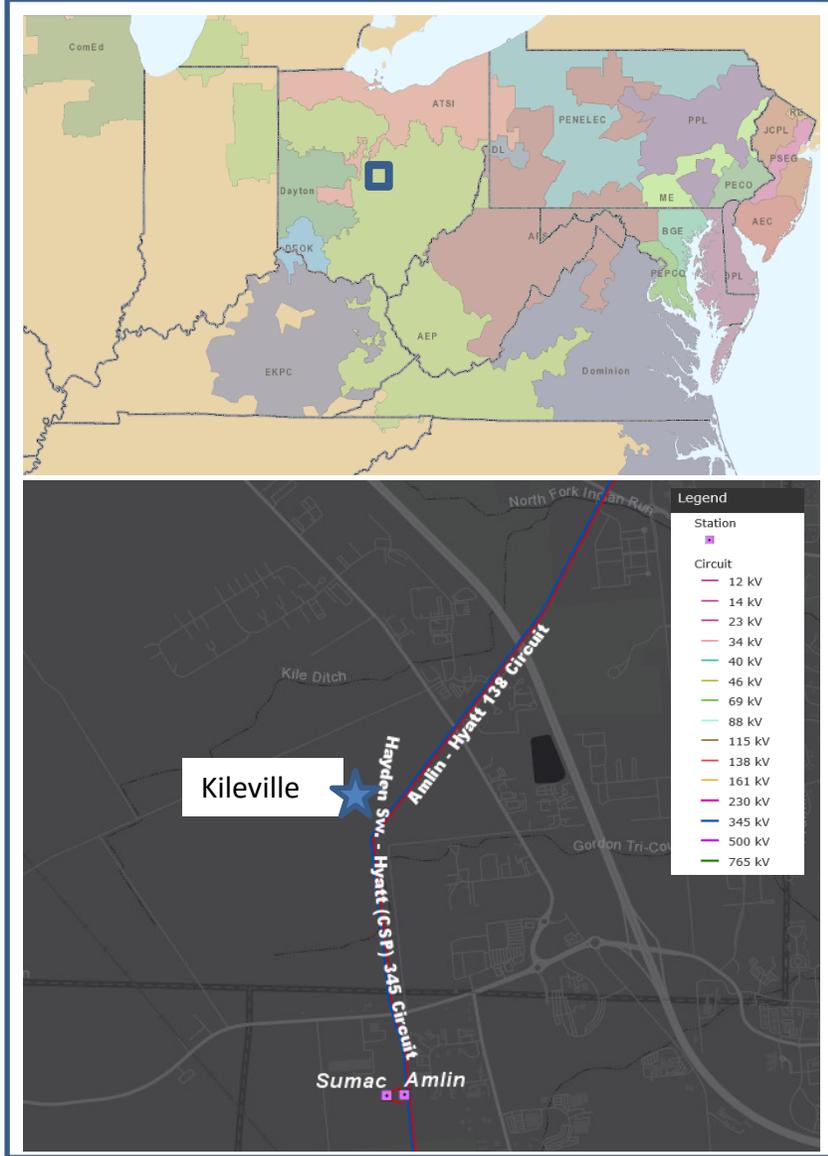
Project Driver: Customer Service

Specific Assumption Reference: AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

Jerome Delivery Point (AEP) 138 kV:

- A customer has requested new transmission service in Plain City, Ohio.
- The delivery point will be used to serve a customer with high potential for rapid load growth. The initial load will be 106 MW with a potential future peak load demand of 203 MW.
- Service is requested by June 2024.
- The customer communicated a much more aggressive load ramp/build out schedule that would put their peak load at approximately 160 MW by early 2025 at the site.
- This Need was originally presented as a Buckeye Power request; The customer has since requested service from AEP Ohio at the site. As part of this request, the customer has indicated the need for additional feeds at the delivery which will bring the load amount up to 203 MW.



Need Number: AEP-2021-OH049

Process Stage: Solutions Meeting 5/9/2023

Proposed Solution:

The following scope of work is all direct connect facilities to physically connect demand to the grid.

- **Jerome 138 kV:** Construct a greenfield Jerome station with (11) 138kV 63kA 4000A circuit breakers in breaker and half bus configuration. Construct ~ 2.5 miles of double circuit 138kV transmission line extending from Celtic & Kileville stations utilizing 2-bundled ACSS Cardinal 954 (45/7) conductor, SE rating 1061 MVA. Construct ~1.6 miles of double circuit 138kV transmission line extending from Jerome to cut-in back to Hyatt – Amlin line utilizing 2-bundled ACSS Cardinal 954 (45/7) conductor, SE rating 1061 MVA. Construct (4) 138 kV tie lines to the customers dead end structures ~0.05 miles utilizing ACSR Dove 556.5 (26/7) conductor SE 284 MVA. Customers will be directly connected at this station. Cost: **\$30 M**

LETTER OF NOTIFICATION KILEVILLE – JEROME 138-KV TRANSMISSION LINE PROJECT

Appendix C Form Easement

Line Name: Kileville-Jerome
Line No.: TLN160:00422
Easement No.:

EASEMENT AND RIGHT OF WAY

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

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

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

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

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

GRANTOR FURTHER GRANTS AEP THE FOLLOWING RIGHTS:

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

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

ingress or egress to, from or along the Easement Area. The Tree Protection Zone extends eighty feet on all sides of the Easement Area depicted in Exhibit A.

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

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

THIS GRANT IS SUBJECT TO THE FOLLOWING CONDITIONS:

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

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

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

This instrument contains the complete agreement, expressed or implied between the parties herein

and shall inure to the benefit of and be binding on their respective successors, affiliates, heirs, executors, and administrators.

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

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

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

GRANTOR

SIGNATURE BLOCK FOR A BUSINESS ENTITY / TRUST:

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

By: _____

Print name: _____

Its Authorized Signer

State of Ohio §

§ SS:

County of Union §

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

Notary

SIGNATURE BLOCK FOR AN INDIVIDUAL:

[Typed name of individual]

State of Ohio §

§ SS:

County of Union §

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

Notary

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

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

LETTER OF NOTIFICATION KILEVILLE – JEROME 138-KV TRANSMISSION LINE PROJECT

Appendix D Agency Coordination



In reply, refer to
2023-UNI-58026

June 15, 2023

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

RE: Kileville-Jerome Project, Jerome Township, Union County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received May 18, 2023 regarding the proposed Kileville-Jerome Project, Jerome Township, Union County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Investigations for the 33.9 ha (83.8 ac) Kileville-Jerome Project in Jerome Township, Union County, Ohio* by Seth T. Cooper and Scott McIntosh (Weller & Associates, Inc. 2023).

A literature review, visual inspection, surface collection, shovel probe, and shovel test unit excavations were completed as part of the investigations. No previously identified archaeological sites are located within the project area and no new archaeological sites were identified during survey. Our office agrees no additional archaeological investigation is needed.

A literature review and field survey were completed as part of the investigations. One (1) resource fifty years of age or older was identified within the Area of Potential Effects (APE). Weller recommends this property is not eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with Weller's recommendation of eligibility.

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

Sincerely,

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

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1098326



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

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

March 8, 2023

Michelle Kearns
Stantec Consulting Services, Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204

Re: 23-0176; AEP Kileville - Jerome 138 kV Line Project

Project: The proposed project involves the construction of a greenfield 138 kilovolt (kV) line from the proposed Kileville Station to the proposed Jerome Station within a 300-foot study corridor.

Location: The proposed project is located in Jerome Township, Union 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: The Natural Heritage Database has the following data within one mile of the project area:

Least Bittern (*Ixobrychus exilis*), T
Sora Rail (*Porzana carolina*), SC
King Rail (*Rallus elegans*), E
Virginia Rail (*Rallus limicola*), SC

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an 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 Indiana bat (*Myotis sodalis*), 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 threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible.

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

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

Federally Endangered

snuffbox (*Epioblasma triquetra*)
Northern riffleshell (*Epioblasma torulosa rangiana*)
clubshell (*Pleurobema clava*)
rayed bean (*Villosa fabalis*)

Federally Threatened

rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered

elephant-ear (*Elliptio crassidens crassidens*)

State Threatened

pondhorn (*Unio merus tetralasmus*)

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

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

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

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

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

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

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

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

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

Mike Pettegrew
Environmental Services Administrator

United States Department of the Interior



FISH AND WILDLIFE SERVICE

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



March 2, 2023

Project Code: 2023-0027801

Dear Ms. Kearns:

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

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

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

confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.

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

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

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

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

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

Sincerely,



Patrice Ashfield
Field Office Supervisor

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

LETTER OF NOTIFICATION KILEVILLE – JEROME 138-KV TRANSMISSION LINE PROJECT

Appendix E Wetland Delineation Report



**Kileville – Jerome 138 kV
Transmission Line Project,
Union County, Ohio**

Ecological Survey Report

Prepared for:

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

Prepared by:

Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, OH 43204

May 15, 2023

Sign-off Sheet

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

Prepared by 
(signature)

Samantha Heitzenrater

Reviewed by 
(signature)

Charlie Allen

Reviewed by 
(signature)

Kate Bomar

Table of Contents

1.0	INTRODUCTION	1
2.0	METHODS	1
2.1	WETLAND DELINEATION	1
2.2	STREAM DELINEATION.....	1
2.3	RARE SPECIES.....	2
3.0	RESULTS	2
3.1	TERRESTRIAL HABITAT.....	2
3.2	WETLANDS	4
3.3	STREAMS.....	7
3.4	OPEN WATERS.....	7
3.5	RARE, THREATENED, OR ENDANGERED SPECIES HABITAT	9
4.0	CONCLUSIONS AND RECOMMENDATIONS	13
5.0	REFERENCES	15

LIST OF TABLES

Table 1.	Vegetation Communities and Land Cover Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio	2
Table 2.	Summary of NWI Disposition within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio	5
Table 3.	Summary of Wetland Resources Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio	6
Table 4.	Summary of Stream Resources Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio	8
Table 5.	Summary of Open Water Features Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio	8

LIST OF APPENDICES

APPENDIX A	STREAM AND WETLAND IMPACT TABLES	A.1
APPENDIX B	FIGURES	B.1
B.1	Project Location Map.....	B.1
B.2	Wetland and Waterbody Delineation Map.....	B.2
B.3	Habitat Assessment Map.....	B.3
B.4	Bat Hibernacula Desktop Study Map	B.4
APPENDIX C	FIELD COLLECTED DATA FORMS	C.1
C.1	Wetland Determination Forms	C.1
C.2	ORAM Forms	C.2
C.3	HHEI Stream Forms	C.3
APPENDIX D	REPRESENTATIVE PHOTOGRAPHS	D.1
D.1	Wetland and Waterbody Photographs	D.1
D.2	Habitat Photographs.....	D.2
APPENDIX E	AGENCY CORRESPONDENCE	E.1

Introduction
May 15, 2023

1.0 INTRODUCTION

AEP Ohio Transmission Company, Inc. (AEP) is proposing to build a 138 kV (kilovolt) line connecting the proposed Kileville and Jerome Stations that is part of the greater Jerome Loop connection Project. The Kileville-Jerome 138 kV Transmission Line Project (the Project) is located northwest of the City of Dublin in Union County, Ohio (Figure 1, Appendix B). A 300-foot study corridor that is approximately 2.15 miles long, totaling approximately 88 acres, (the Project area) was surveyed for wetlands, waterbodies, open water features, upland drainage features, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on February 8 and 15, and March 30, 2023 (Figure 2, Appendix B). The approximate locations of features located up to 50 feet outside of the Project area were also recorded during the field surveys, where landowner access was permitted. However, no data forms were collected on features that did not extend into the Project area. These features are shown on the Figure 2 maps in Appendix B as "approximate" wetlands, streams (waterways), open waters, and upland drainage features.

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0; USACE 2010). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's *Guidance on Ordinary High Water Mark Identification* (Regulatory Guidance Letter, No. 05-05; USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (USACE 2002) and determined as potential Waters of the U.S. (WOUS) in reference to the current guidance per interpretation of WOUS that is consistent with the pre-2015 regulatory regime (40 CFR 230.3(s)) (USEPA 2020). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat

Results
 May 15, 2023

Evaluation Index (HHEI; OEPA 2020) and/or Qualitative Habitat Evaluation Index (QHEI; OEPA 2006). The centerline and/or the OHWM locations of each waterway were identified and surveyed using a handheld sub-meter accuracy global positioning system (GPS) unit and mapped with GIS software. Additionally, the locations of upland drainage features (which lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

2.3 RARE SPECIES

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

3.0 RESULTS

3.1 TERRESTRIAL HABITAT

Stantec completed field surveys within the Project area on February 8 and 15, and March 30, 2023, for potentially suitable habitats for threatened and endangered species. Figure 3 (Appendix B) shows the land cover, vegetation communities, and any identified rare, threatened, or endangered species habitats observed within the Project area during the habitat assessment surveys. Representative photographs of the vegetation communities/habitats identified within the Project area are included in Appendix D of this report (photo locations are shown on Figure 3 in Appendix B). Information regarding the vegetation communities/habitats identified within the Project area is provided in Table 1.

Table 1. Vegetation Communities and Land Cover Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Maintained Lawn/Commercial	Moderate to Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders, planted non-native species, and/or native highly tolerant taxa). Dominant species included Kentucky bluegrass (<i>Poa</i>	No	7.94

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
 May 15, 2023

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
	<i>pratensis</i>), blue spruce (<i>Picea pungens</i>), eastern white pine (<i>Pinus strobus</i>), and red maple (<i>Acer rubrum</i>).		
Second Growth Deciduous Forest	Intermediate disturbance (dominated by plants that typify a stable phase of a native community that persists under some disturbance). Dominant species included silver maple (<i>Acer saccharinum</i>), green ash (<i>Fraxinus pennsylvanica</i>), red maple, basswood (<i>Tilia americana</i>), sugar maple (<i>Acer saccharum</i>), northern spicebush (<i>Lindera benzoin</i>) and Gray's sedge (<i>Carex grayi</i>).	No	5.91
Existing Roadway	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	1.86
Old Field	Dominant species included red clover (<i>Trifolium pratense</i>), giant ragweed (<i>Ambrosia trifida</i>), yellow foxtail (<i>Setaria pumila</i>), eastern cottonwood (<i>Populus deltoides</i>), daisy fleabane (<i>Erigeron annuus</i>), Canada goldenrod (<i>Solidago canadensis</i>), giant foxtail (<i>Setaria faberi</i>), common dandelion (<i>Taraxacum officinale</i>), heath aster (<i>Symphphytrichum pilosum</i>) and fall panicgrass (<i>Panicum dichotomiflorum</i>).	No	7.02
Agricultural Field	Dominant species included corn (<i>Zea mays</i>) and soybeans (<i>Glycine max</i>).	No	30.49
Early Successional Forest	Dominant species included red maple, common hackberry (<i>Celtis occidentalis</i>), American beech (<i>Fagus grandifolia</i>), giant foxtail, Allegheny blackberry (<i>Rubus allegheniensis</i>), ground ivy (<i>Glechoma hederacea</i>), Canada goldenrod, shagbark hickory (<i>Carya ovata</i>), pin oak (<i>Quercus palustris</i>), green ash, and eastern black walnut (<i>Juglans nigra</i>).	No	5.20
Active Construction	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	23.68

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results

May 15, 2023

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Residential	Moderate to Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders, planted non-native species, and/or native highly tolerant taxa). Dominant species included Kentucky bluegrass and common dandelion.	No	1.18
Open Water	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	4.63
Palustrine Emergent Wetland (PEM)	Intermediate disturbance (dominated by plants that typify a stable phase of a native community that persists under some disturbance). Dominant species included rice cutgrass (<i>Leersia oryzoides</i>) and devil's beggartick (<i>Bidens frondosa</i>)	No	0.03
TOTAL			87.94

3.2 WETLANDS

Desktop analysis determined that the Project area contains five NWI features. Field surveys conducted on February 8 and 15, and March 30, 2023, determined that three of the NWI features were in an upland area and are not considered to be a wetland. Stream 1 and Stream 2 were identified within one of the NWI features, and the final NWI feature contains Open Water 3 and Wetland 1. The wetland determination data forms are included in Appendix C and representative photographs of the sample points are included in Appendix D (sample points and photo locations are shown on Figure 2, Appendix B). Table 2 summarizes the NWI disposition within the Project area.

Stantec identified 1 wetland within the Project area. Figure 2 (Appendix B) shows the location of the wetland identified within the Project area. Representative wetland photographs are included in Appendix D of this report (photo locations are shown on Figure 2, Appendix B). Completed wetland determination and ORAM data forms are included in Appendix C. Information regarding the wetland resources within the Project area and proposed impacts are summarized in Table 3 and Appendix A.

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
May 15, 2023

Table 2. Summary of NWI Disposition within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

NWI Code	NWI Description	Figure 2 Page Number	Related Field Inventoried Resource	Comments
PFO1C	Palustrine Forested, Broad Leaved Deciduous, Seasonally Flooded.	1, 2	SP1	Determined to be an upland area (second growth deciduous forest habitat), SP1
PFO1C	Palustrine Forested, Broad Leaved Deciduous, Seasonally Flooded.	2	SP2	Determined to be an upland area (second growth deciduous forest habitat), SP2
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	4	Stream 1, Stream 2	Delineated as a perennial stream channel, Stream 1 (Kile Ditch) and as an intermittent stream channel, Stream 2
PFO1A	Palustrine, Forested, Broad-leaved Deciduous, Temporarily Flooded	5, 6	SP6	Determined to be an upland area (new construction/clear cut), SP6
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	6	Open Water 3, Wetland 1	Delineated as Open Water 3 and as a PEM wetland, Wetland 1

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
May 15, 2023

Table 3. Summary of Wetland Resources Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Wetland ID	Location			Isolated? ²	Habitat Type ^{3,4}	Delineated Area within Project Area (acre)	Total Delineated Area (acre)	ORAM ⁵		Nearest Proposed Structure Number	Existing Structure Number in Wetland	Proposed Structure Number in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude	Photo Location ¹					Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	40.116748	-83.197607	14, 15	No	PEM	0.03	0.05	16	1	TBD ⁶	None	TBD ⁶	N/A	TBD ⁶	TBD ⁶
Total:						0.03	0.05	Total:						TBD⁶	TBD⁶

¹ Appendix B - Figure 2 and Appendix D – Photo log D-1
² Pending USACE jurisdictional review
³ Habitat type based on Cowardin et al. (1979).
⁴ PEM = Palustrine Emergent Wetland
⁵ ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetland v. 5.0 (Mack 2001).
⁶ To be determined. Impact information and/or structure installation method is unknown at this time.

Results

May 15, 2023

3.3 STREAMS

Stantec identified two streams within the Project area during field surveys conducted on February 8 and 15, and March 30, 2023. Information regarding the streams within the Project area and proposed impacts are summarized in Table 4 and Appendix A. Figure 2 (Appendix B) shows the locations of the streams identified within the Project area. Representative photographs of the streams are included in Appendix D of this report (photo locations are shown on Figure 2, Appendix B). Completed HHEI data forms are included in Appendix C.

3.4 OPEN WATERS

Three open water features (i.e., ponds, lakes) were delineated within the Project area during the field surveys completed on February 8 and 15, and March 30, 2023. Information regarding the open waters within the Project area and proposed impacts is summarized in Table 5 and Appendix A. Figure 2 (Appendix B) shows the location of the open water pond identified by Stantec within the Project area. Representative photographs of the open waters are included in Appendix D of this report (photo locations are shown on Figure 2, Appendix B).

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
May 15, 2023

Table 4. Summary of Stream Resources Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Stream ID	Location			Stream Type ²	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width ³ (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude	Photo Location ¹						Method ⁴	Score	Category/ Rating/OAC Designation			Fill Type	Length (LF)
Stream 1 (Kile Ditch)	40.120518	-83.208943	5, 6, 7	Perennial	Kile Ditch	389	7	6	HHEI	57	Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 2	40.120433	-83.209311	8	Intermittent	UNT to Kile Ditch	45	4	1.5	HHEI	34	Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Total Delineated Length Within Project Area:						434	Total Proposed Impacts:						TBD⁵	TBD⁵	
¹ Appendix B – Figure 2 and Appendix D ² Stream Classification is based on Federal Register/Vol.67, N. 10 (USACE 2002) ³ OHWM = Ordinary High Water Mark ⁴ HHEI = Headwater Habitat Evaluation Index ⁵ To be determined. Impact information and/or structure installation method is unknown at this time.															

Table 5. Summary of Open Water Features Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Open Water ID	Location			Open Water Type	Delineated Area (acre)	Nearest Proposed Structure Number	Proposed Impacts	
	Latitude	Longitude	Photo Location ¹				Fill type	Area (acre)
Open Water 1	40.131657	-83.211742	3	Detention Pond	3.74	TBD ¹	TBD ¹	TBD ¹
Open Water 2	40.120744	-83.198457	10	Detention Pond	0.82	TBD ¹	TBD ¹	TBD ¹
Open Water 3	40.117065	-83.197838	13	Detention Pond	0.07	TBD ¹	TBD ¹	TBD ¹
Total:					4.63	Total		TBD¹
¹ To be determined. Impact information and/or structure installation method is unknown at this time.								

Results
May 15, 2023

3.5 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 6. Summary of Potential Federal and Ohio State-Listed Species within the Kileville – Jerome 138 kV Transmission Line Project, Union County, Ohio

Common/Scientific Names	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
Indiana bat/ <i>Myotis sodalis</i>	E	E	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas. Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007, USFWS 2022). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer roosting and foraging habitat (second growth deciduous forest) was observed within the Project area.	<p>ODNR – The Project is within the vicinity of records for the Indiana bat. Because presence of this 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. Limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW. 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 diameter at breast height (dbh) ≥ 20 inches if possible. In addition, the DOW recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area.</p> <p>USFWS – The Project is in the vicinity of one or more confirmed records of the Indiana bat. Should the proposed Project site contain trees ≥3 inches dbh, USFWS recommends avoiding tree removal whenever possible. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, USFWS recommends removal only occur between October 1 and March 31. Please note that, because Indiana bat presence has already been confirmed in the Project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.</p>	<p>Stantec completed a desktop habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2023a) and locations of known or suspect karst geology (ODNR 2023b). The desktop assessment did not identify any karst features or abandoned or active mines within 0.25 miles of the Project area (Figure 4; Appendix B). Potential suitable roosting and foraging habitat was observed within the Project area. AEP will determine if any tree clearing is necessary in areas containing suitable habitat and will proceed in accordance with agency requirements.</p> <p>Avoidance dates: April 1 through September 30</p>
Northern Long-eared Bat/ <i>Myotis septentrionalis</i>	E	E	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2020). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer roosting and foraging habitat (second growth deciduous forest) was observed within the Project area.	<p>ODNR – This Project lies within the range of the northern long-eared bat. During the spring and summer (April 1 through September 30), this bat species predominantly roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. 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 ≥ 20 inches if possible. In addition, the DOW recommends a desktop habitat assessment, followed by a field assessment if needed to determine if there are potential hibernacula present within the Project area.</p> <p>USFWS - The northern long-eared bat occurs throughout the State of Ohio. Therefore, USFWS recommends avoiding tree removal whenever possible. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, USFWS recommends removal only occur between October 1 and March 31. Incidental take</p>	<p>Stantec completed a desktop habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2023a) and locations of known or suspect karst geology (ODNR 2023b). The desktop assessment did not identify any karst features or abandoned or active mines within 0.25 miles of the Project area (Figure 4; Appendix B). Potential suitable roosting and foraging habitat was observed within the Project area. AEP will determine if any tree clearing is necessary in areas containing suitable habitat and will proceed in accordance with agency requirements.</p>

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
May 15, 2023

Common/Scientific Names	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
					of northern long-eared bats from most tree clearing is exempt by a 4(d) rule.	Avoidance dates: April 1 through September 30
Little Brown Bat/ <i>Myotis lucifugus</i>	E	N/A	This bat uses a wide range of habitats and man-made structures for roosting, including buildings and attics. Less frequently, they use hollows of trees. Winter hibernation sites typically consist of caves, tunnels, abandoned mines. Foraging habitat for this species generally occurs over water, along the edges of lakes and stream or in woodlands near waterbodies (NatureServe 2023).	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer roosting and foraging habitat (second growth deciduous forest) was observed within the Project area.	ODNR - This Project lies within the range of the little brown bat. Therefore, ODNR DOW recommends that habitat be conserved wherever possible. If suitable habitat occurs within the Project area and trees need to be cut, the ODNR DOW recommends cutting occur between October 1 and March 31. In addition, the DOW recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area. USFWS – No comments received.	Stantec completed a desktop habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2023a) and locations of known or suspect karst geology (ODNR 2023b). The desktop assessment did not identify any karst features or abandoned or active mines within 0.25 miles of the Project area (Figure 4; Appendix B). Potential suitable roosting and foraging habitat was observed within the Project area. AEP will determine if any tree clearing is necessary in areas containing suitable habitat and will proceed in accordance with agency requirements. Avoidance dates: April 1 through September 30
Tricolored Bat/ <i>Perimyotis subflavus</i>	E	PE	This bat is associated with forested landscapes, where they forage near trees and along waterways. Maternity and summer roosts usually occur in dead or live tree foliage, or in the south, in clumps of Spanish moss. Maternity colonies may also use tree cavities or man-made structures, such as buildings or bridges. Caves, mines, and rock crevices may be used as night roosts between foraging (NatureServe 2023).	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer roosting and foraging habitat (second growth deciduous forest) was observed within the Project area.	ODNR - This Project lies within the range of the tricolored bat. Therefore, ODNR DOW recommends that habitat be conserved wherever possible. If suitable habitat occurs within the Project area and trees need to be cut, the ODNR DOW recommends cutting occur between October 1 and March 31. In addition, the DOW recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area. USFWS – No comments received.	Stantec completed a desktop habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2023a) and locations of known or suspect karst geology (ODNR 2023b). The desktop assessment did not identify any karst features or abandoned or active mines within 0.25 miles of the Project area (Figure 4; Appendix B). Potential suitable roosting and foraging habitat was observed within the Project area. AEP will determine if any tree clearing is necessary in areas containing suitable habitat and will proceed in accordance with agency requirements. Avoidance dates: April 1 through September 30

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
May 15, 2023

Common/Scientific Names	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
Snuffbox/ <i>Epioblasma triquetra</i>	E	E	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – 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. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. In addition, no in-water work is proposed in a perennial stream. Therefore, this Project is not likely to impact this species.
Northern riffleshell/ <i>Epioblasma torulosa rangiana</i>	E	E	Preferred habitat is swiftly moving water. The high oxygen concentrations in swift streams may be necessary for survival. It is a species of riffle areas of smaller streams, and as such has fared better than larger river species (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – 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. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. In addition, no in-water work is proposed in a perennial stream. Therefore, this Project is not likely to impact this species.
Clubshell/ <i>Pleurobema clava</i>	E	E	Small to medium-sized rivers and streams. It is found mostly in sand and fine gravel, and it deeply buried. This species is generally found in clean, coarse sand gravel in runs, often just downstream of a riffle, and cannot tolerate mud or slackwater conditions (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – 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. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. In addition, no in-water work is proposed in a perennial stream. Therefore, this Project is not likely to impact this species.
Rayed bean / <i>Villosa fabalis</i>	E	E	It is generally known from smaller headwater creeks, but records exist in larger rivers. They are usually found in or near shoal or riffle areas, and in the shallow wave-washed areas of glacial lakes, including Lake Erie (NatureServe 2023).	Potentially suitable habitat (perennial stream, Kile Ditch) was observed within the Project area.	ODNR – 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. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	Potentially suitable habitat was observed within the Project area. However, due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact these species.
Elephant-ear/ <i>Elliptio crassidens crassidens</i>	E	N/A	An inhabitant of channels in large creeks to rivers with moderate to swift currents, primarily on sand and limestone or rock substrates (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – 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. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. In addition, no in-water work is proposed in a perennial stream. Therefore, this Project is not likely to impact this species.
Rabbitsfoot/ <i>Quadrula cylindrica cylindrica</i>	E	T	The typical habitat is small to medium rivers with moderate to swift currents, and in smaller streams it inhabits bars or gravel and cobble close to the fast current (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – 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. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. In addition, no in-water work is proposed in a perennial stream. Therefore, this Project is not likely to impact this species.
Pondhorn/ <i>Unio merus tetralasmus</i>	T	N/A	Typically inhabits quiet or slow-moving, shallow waters of shoughs, borrow pits, ponds, ditches, and meandering streams. It is tolerant of poor water conditions and can be	Potentially suitable habitat (perennial stream, Kile Ditch) was	ODNR – 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	Potentially suitable habitat was observed within the Project area. However, due to the location, and that

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Results
May 15, 2023

Common/Scientific Names	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
			found well buried in a substrate of fine silt and/or mud (NatureServe 2023).	observed within the Project area.	habitat. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species. USFWS – No comments received.	there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact these species.
American bittern / <i>Botaurus lentiginosus</i>	E	N/A	Occurs primarily in large freshwater and (less often) brackish marshes, including lake and pond edges where cattails, sedges, or bulrushes are plentiful and marshes where there are patches of open water and aquatic bed vegetation (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – If large undisturbed wetlands with scattered small pools amongst dense vegetation will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, this Project is not likely to impact this species.
Least Bittern/ <i>Ixobrychus exilis</i>	T	N/A	Occurs in tall emergent vegetation in marshes, primarily freshwater, less commonly in coastal brackish marshes and mangrove swamps. Prefers marshes with scattered bushes or other woody growth (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – The Project is within the range of the least bittern. Therefore, DOW recommends if suitable habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to July 31. If suitable habitat will not be impacted, the Project is not likely to impact this species. The Natural Heritage Database has a record of this species within a one-mile radius of the Project area. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, this Project is not likely to impact this species.
King Rail/ <i>Rallus elegans</i>	E	E	Occurs in freshwater marshes, upland – wetland marsh edges, rice fields or similar flooded farmlands, shrub swamps (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – The Project is within the range of the king rail. Therefore, DOW recommends if suitable habitat will be impacted, construction should be avoided during the species' nesting period of May 1 to July 31. If suitable habitat will not be impacted, the Project is not likely to impact this species. The Natural Heritage Database has a record of this species within a one-mile radius of the Project area. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, this Project is not likely to impact this species.
Sora Rail / <i>Porzana carolina</i>	SC	N/A	Occurs primarily in shallow freshwater emergent wetlands, less frequently in bogs, fens, wet meadows, and flooded fields, sometimes foraging on open mudflats adjacent to marshy habitat (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – The Natural Heritage Database has a record of this at or within a one-mile radius of the Project area. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, this Project is not likely to impact this species.
Virginia Rail / <i>Rallus limicola</i>	SC	N/A	Occurs in freshwater and occasionally brackish marshes, mostly in cattails, reeds, and deep grasses, also in or close to other emergent vegetation (NatureServe 2023).	No suitable habitat was observed within the Project area.	ODNR – The Natural Heritage Database has a record of this at or within a one-mile radius of the Project area. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, this Project is not likely to impact this species.

*Status key: E=Endangered; T=Threatened; PE=Potentially Endangered; SC=Species of Concern

**The information is based on the literature review response information from ODNR and USFWS and is study area/project specific.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species within the Project area on February 8 and 15, and March 30, 2023. During the field surveys, one PEM wetland totaling approximately 0.03 acre and two streams totaling approximately 434 linear feet, including approximately 389 linear feet of perennial stream and 45 linear feet of intermittent stream were delineated within the Project area. Three open water features totaling approximately 4.6 acres was also delineated within the Project area.

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

An ODNR Ohio Natural Heritage Program data request and environmental review request letter was sent to the ODNR Office of Real Estate on February 13, 2023. The ODNR Office of Real Estate response letter dated March 8, 2023, stated that the Project is within the vicinity of records for the Indiana bat and that the entire state of Ohio is within the ranges of the northern long-eared bat, little brown bat, and tricolored bat. If trees are present within the Project area, and trees must be cut, the Division of Wildlife (DOW) recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with diameter at breast height (dbh) \geq 20 inches if possible. The DOW also recommends a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) are present within 0.25 mile of the Project area. Stantec completed a desktop habitat assessment in accordance with the 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2022b) and locations of known or suspect karst geology (ODNR 2022a). The desktop assessment did not identify any karst features or abandoned or active mines within 0.25 miles of the Project area (Figure 4; Appendix B). In addition, no potentially suitable winter hibernacula were observed within the Project area during field surveys. However, potentially suitable summer foraging and roosting habitat was observed within the Project area. AEP will determine if any tree clearing is necessary in areas containing suitable habitat and will proceed in accordance with agency recommendations.

According to the ODNR response letter, the Project is within the range of the federally listed endangered snuffbox, clubshell, northern riffleshell and rayed bean, the federally-listed threatened rabbitsfoot, the state-listed endangered elephant-ear, and state-listed threatened pondhorn freshwater mussels. Potentially suitable habitat for several listed freshwater mussels (small perennial stream, Kile Ditch) was observed within the Project area. However, due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact these species.

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Conclusions and Recommendations

May 15, 2023

According to the ODNR response letter, the Project is within the range of the state-listed endangered American bittern and king rail, and the state-listed threatened least bittern. The DOW recommends avoiding construction or other disturbance within the nesting habitat of these species from May 1 through July 31. However, no suitable habitat for nesting was observed within the Project area, therefore, this Project is not likely to impact these species.

A technical assistance request letter was submitted to the USFWS on February 13, 2023. The USFWS response letter dated March 2, 2023, recommends that the proposed Project avoid and minimize impacts to all wetland habitats to the maximum extent possible and natural buffers around streams and wetlands should be preserved to enhance beneficial functions.

According to the USFWS response letter, the Project is within the vicinity of one or more confirmed records of federally endangered Indiana bat and within the range of the federally threatened northern long-eared bat. Therefore, USFWS recommends that trees ≥ 3 inches dbh be saved wherever possible and any tree removal that is unavoidable should only occur between October 1 and March 31 to avoid adverse effects to these species. Due to the confirmed presence of Indiana bats, any additional summer surveys would not constitute presence/absence surveys for this species.

The Project area does not contain suitable winter hibernacula, however, potentially suitable summer foraging and roosting habitat (second growth deciduous forest) was observed within the Project area for the Indiana bat and northern long-eared bat. AEP will determine if any tree clearing is necessary in areas containing suitable habitat and will proceed in accordance with agency recommendations.

The USFWS also stated that due to the Project type, size, and location, they do not anticipate adverse effects to any other federally endangered, threatened, proposed or candidate species due to the Project type, size, and location (Appendix E).

References
May 15, 2023

5.0 REFERENCES

- Brack, Virgil Jr., Dale W. Sparks, John O. Whitaker Jr., Brianne L. Walters, and Angela Boyer. 2010. Bats of Ohio. Indiana State University Center for North American Bat Research and Conservation.
- Cowardin, L.M., V. Carter V., F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.
- Mack, J.J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus, Ohio.
- NatureServe. 2023. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, VA. U.S.A. Available at <http://explorer.natureserve.org>. Accessed April 2023.
- Ohio Department of Natural Resources (ODNR), Division of Geological Survey. 2022a. Karst Interactive Map. Available online at Karst Interactive Map Viewer (ohiodnr.gov). Accessed April 2023.
- ODNR, Division of Mineral Resources and Division of Geological Survey. Mines of Ohio. 2022b. Available online at ODNR Mines of Ohio Viewer (ohiodnr.gov). Accessed April 2023.
- Ohio Environmental Protection Agency (OEPA). 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI).
- OEPA. 2020. Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. 130 pp.
- U.S. Army Corps of Engineers (USACE), Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y 87 1, U.S. Army Engineer Waterway Experiment Station, Vicksburg, Mississippi.
- USACE. 2002. Issuance of Nationwide Permits; Notice, 67 Fed. Reg. 10. January 15, 2002. Federal Register: The Daily Journal of the United States. Available at <https://www.gpo.gov/fdsys/pkg/FR-2002-01-15/pdf/02-539.pdf>.
- USACE. 2005. Guidance on Ordinary High Water Mark Identification (Regulatory Guidance Letter, No.05-05). Available online at <https://www.nap.usace.army.mil/Portals/39/docs/regulatory/rgls/rgl05-05.pdf>. Accessed April 2023.

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

References

May 15, 2023

- USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USACE. 2020. The Navigable Waters Protection Rule: Definition of "Waters of the United States"; Vol 85, No. 77. Fed. Reg. 22250. April 21, 2020. Federal Register: The Daily Journal of the United States. Available at <https://www.federalregister.gov/documents/2020/04/21/2020-02500/the-navigable-waters-protection-rule-definition-of-waters-of-the-united-states>.
- USEPA. 2022. 40 Code of Federal Regulations 230.3(s). Available at <https://www.govinfo.gov/content/pkg/CFR-2005-title40-vol24/pdf/CFR-2005-title40-vol24-sec230-3.pdf>. Accessed April 2023.
- U.S. Fish and Wildlife Service (USFWS). 2007. Indiana bat (*Myotis sodalis*) draft recovery plan: First revision. U.S. Fish and Wildlife Service, Ft. Snelling, Minnesota. 258 pp.
- USFWS. 2020. Northern Long-eared Bat (*Myotis septentrionalis*). Available online at <https://www.fws.gov/midwest/Endangered/mammals/nleb/nlebFactSheet.html>. Accessed April 2023.
- USFWS. 2023. 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines, March 2023. Available: https://www.fws.gov/sites/default/files/documents/USFWS_Range-wide_IBat_%26_NLEB_Survey_Guidelines_2023.pdf Accessed April 2023.

Stream and Wetland Impact Tables

May 15, 2023

Appendix A **STREAM AND WETLAND IMPACT TABLES**

Table 1. Summary of NWI Disposition within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

NWI Code	NWI Description	Figure 2 Page Number	Related Field Inventoried Resource	Comments
PFO1C	Palustrine Forested, Broad Leaved Deciduous, Seasonally Flooded.	1, 2	SP1	Determined to be an upland area (second growth deciduous forest habitat), SP1
PFO1C	Palustrine Forested, Broad Leaved Deciduous, Seasonally Flooded.	2	SP2	Determined to be an upland area (second growth deciduous forest habitat), SP2
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	4	Stream 1, Stream 2	Delineated as a perennial stream channel, Stream 1 (Kile Ditch) and as an intermittent stream channel, Stream 2
PFO1A	Palustrine, Forested, Broad-leaved Deciduous, Temporarily Flooded	5, 6	SP6	Determined to be an upland area (new construction/clear cut), SP6
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	6	Open Water 3, Wetland 1	Delineated as Open Water 3 and as a PEM wetland, Wetland 1

Table 2. Summary of Wetland Resources Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Wetland ID	Location			Isolated? ²	Habitat Type ^{3,4}	Delineated Area within Project Area (acre)	Total Delineated Area (acre)	ORAM ⁵		Nearest Proposed Structure Number	Existing Structure Number in Wetland	Proposed Structure Number in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude	Photo Location ¹					Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	40.116748	-83.197607	14, 15	No	PEM	0.03	0.05	16	1	TBD ⁶	None	TBD ⁶	N/A	TBD ⁶	TBD ⁶
Total:						0.03	0.05						Total:	TBD⁶	TBD⁶

¹ Appendix B - Figure 2 and Appendix D – Photo log D-1
² Pending USACE jurisdictional review
³ Habitat type based on Cowardin et al. (1979).
⁴ PEM = Palustrine Emergent Wetland
⁵ ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetland v. 5.0 (Mack 2001).
⁶ To be determined. Impact information and/or structure installation method is unknown at this time.

Table 3. Summary of Stream Resources Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Stream ID	Location			Stream Type ²	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width ³ (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude	Photo Location ¹						Method ⁴	Score	Category/ Rating/OAC Designation			Fill Type	Length (LF)
Stream 1 (Kile Ditch)	40.120518	-83.208943	5, 6, 7	Perennial	Kile Ditch	389	7	6	HHEI	57	Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 2	40.120433	-83.209311	8	Intermittent	UNT to Kile Ditch	45	4	1.5	HHEI	34	Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Total Delineated Length Within Project Area:						434						Total Proposed Impacts:	TBD⁵	TBD⁵	

¹ Appendix B – Figure 2 and Appendix D
² Stream Classification is based on Federal Register/Vol.67, N. 10 (USACE 2002)
³ OHWM = Ordinary High Water Mark
⁴ HHEI = Headwater Habitat Evaluation Index
⁵ To be determined. Impact information and/or structure installation method is unknown at this time.

Table 4. Summary of Open Water Features Found within the Kileville – Jerome 138 kV Transmission Line Project Area, Union County, Ohio

Open Water ID	Location			Open Water Type	Delineated Area (acre)	Nearest Proposed Structure Number	Proposed Impacts	
	Latitude	Longitude	Photo Location ¹				Fill type	Area (acre)
Open Water 1	40.131657	-83.211742	3	Detention Pond	3.74	TBD ¹	TBD ¹	TBD ¹
Open Water 2	40.120744	-83.198457	10	Detention Pond	0.82	TBD ¹	TBD ¹	TBD ¹
Open Water 3	40.117065	-83.197838	13	Detention Pond	0.07	TBD ¹	TBD ¹	TBD ¹
Total:					4.63	Total		TBD¹

¹ To be determined. Impact information and/or structure installation method is unknown at this time.

Figures
May 15, 2023

Appendix B FIGURES

B.1 PROJECT LOCATION MAP

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708936-193708936-Jerome-Loop03_data\gis\mxd\eco\193708936-KilevilleJerome-Eco.aprx Revised: 2023-05-12 By: saraturner

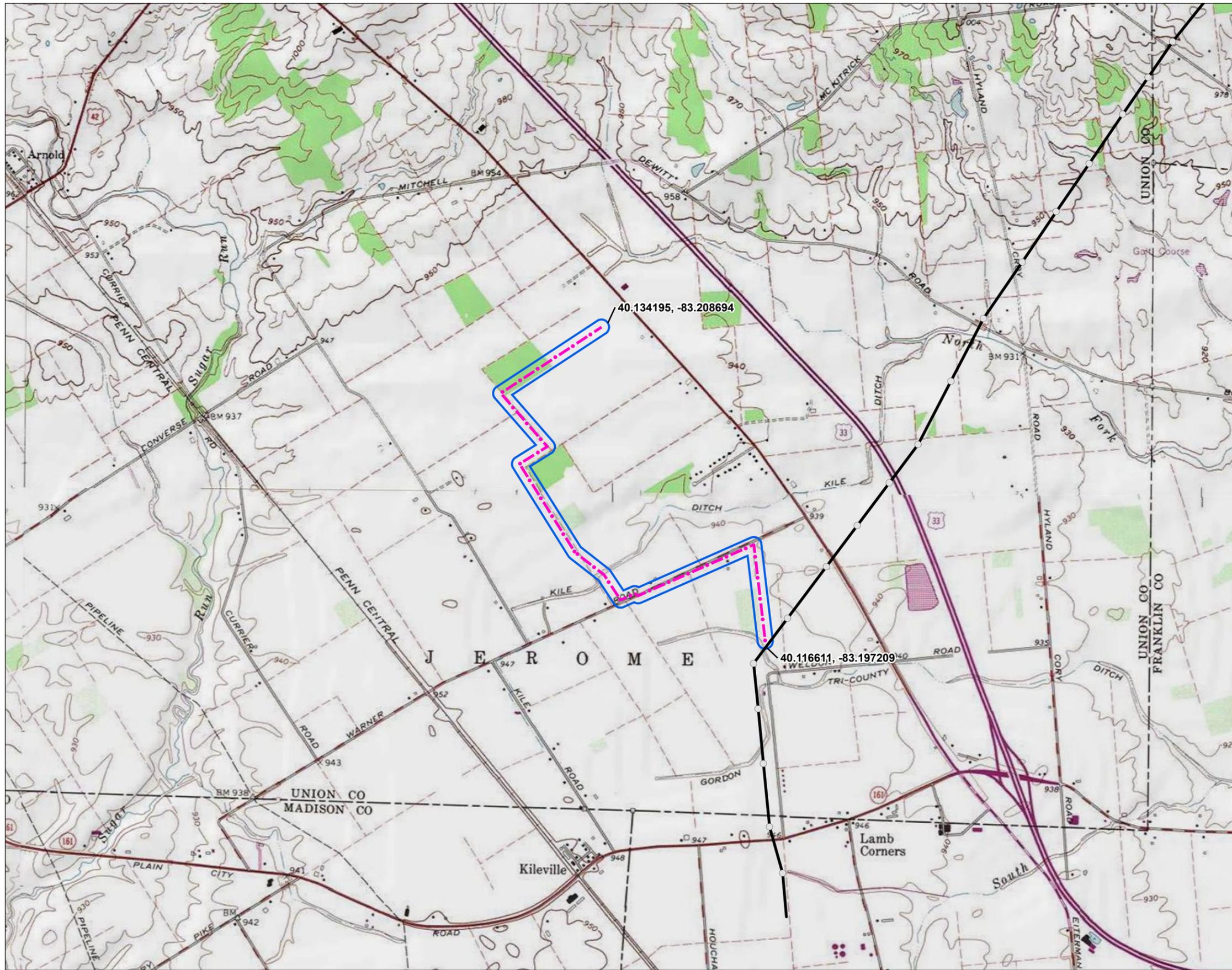


Figure No.

1

Title

Project Location Map

Client/Project
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

193708936

Project Location
Union County, Ohio

Prepared by JDS on 2022-12-21
TR by CA on 2023-05-10
IR by KB on 2023-05-04



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

Legend

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



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles - Hilliard, OH (1974), Shawnee Hills, OH (1975)



Figures
May 15, 2023

B.2 WETLAND AND WATERBODY DELINEATION MAP

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_KievilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner

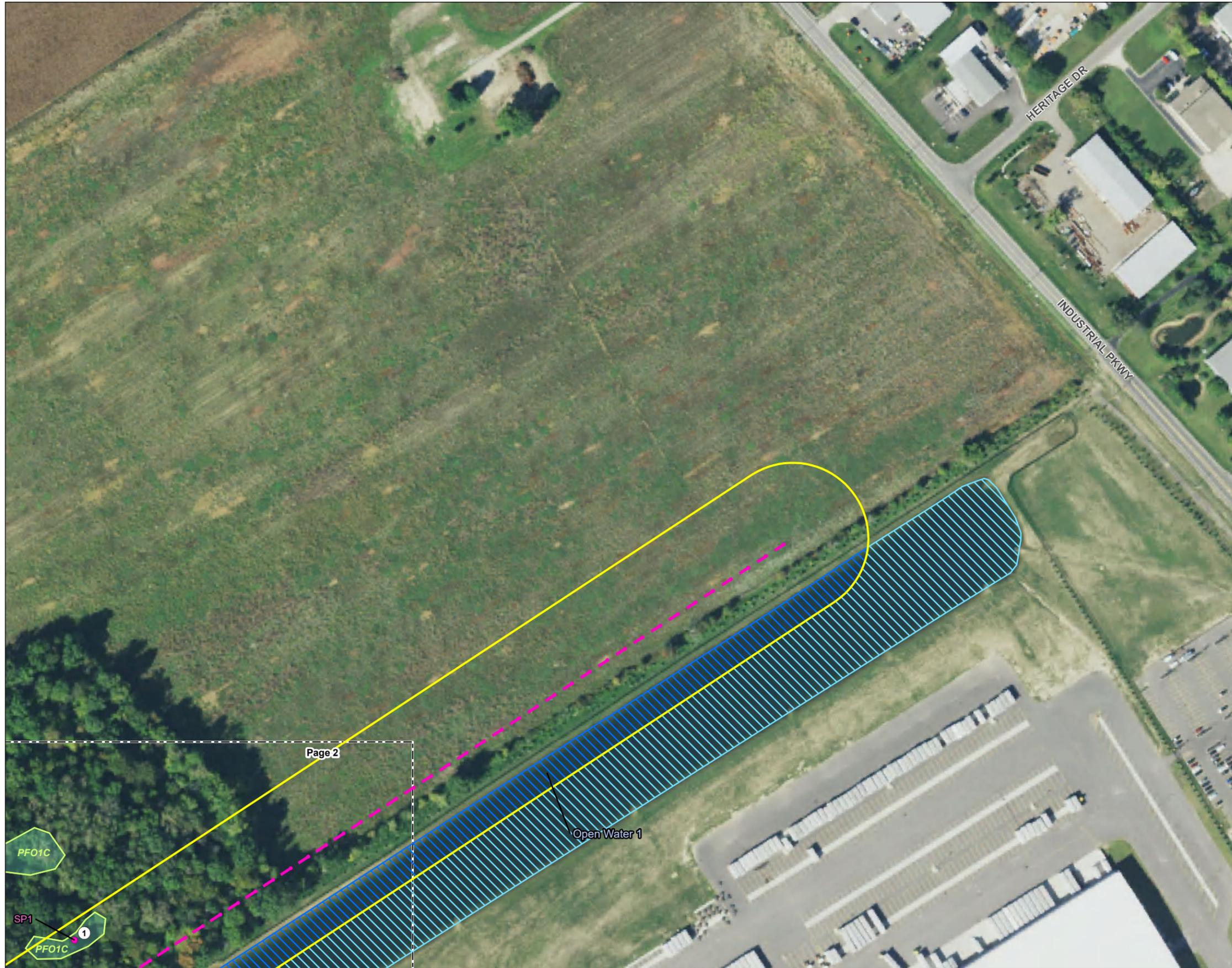


Figure No.

2

Title

Wetland and Waterbody Delineation Map

Client/Project 193708936
AEP Ohio Transmission Company, Inc.
Kieville-Jerome 138kV Transmission Line Project

Project Location Union County, Ohio Prepared by ST on 2023-04-17
TR by CA on 2023-05-10
IR by KB on 2023-05-04

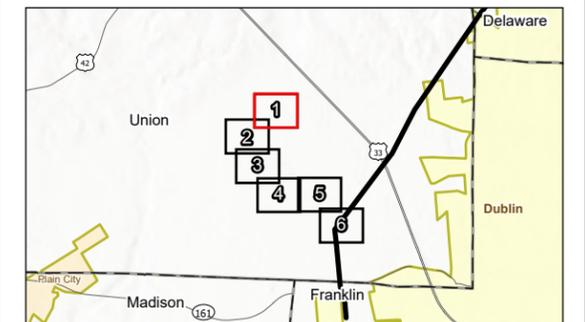


0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- National Wetlands Inventory Feature
- FEMA Flood Hazard Area*
- 100-year Floodplain
- Floodway

*No features within data frame



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner

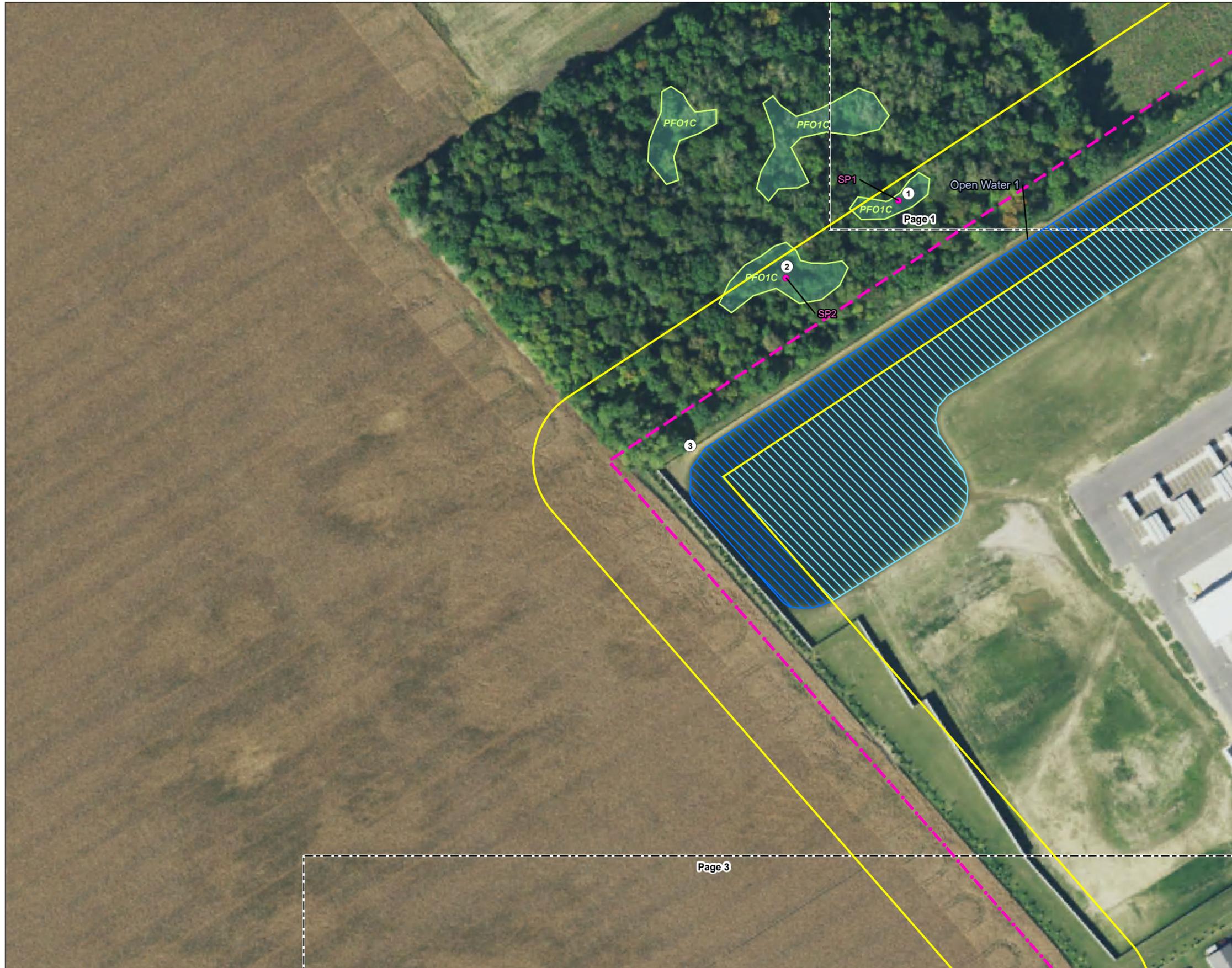


Figure No.

2

Title

Wetland and Waterbody Delineation Map

Client/Project 193708936
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

Project Location Union County, Ohio Prepared by ST on 2023-04-17
TR by CA on 2023-05-10
IR by KB on 2023-05-04

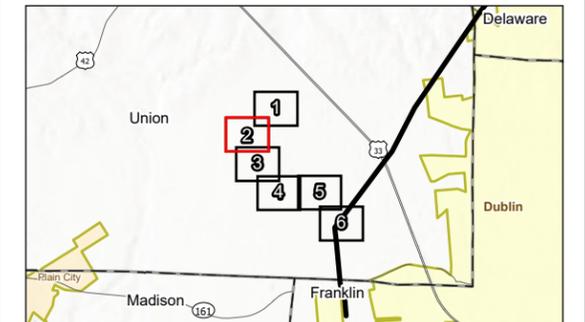


0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- National Wetlands Inventory Feature
- FEMA Flood Hazard Area*
- 100-year Floodplain
- Floodway

*No features within data frame



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_KievilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



Figure No.

2

Title

Wetland and Waterbody Delineation Map

Client/Project 193708936
AEP Ohio Transmission Company, Inc.
Kieville-Jerome 138kV Transmission Line Project

Project Location Union County, Ohio Prepared by ST on 2023-04-17
TR by CA on 2023-05-10
IR by KB on 2023-05-04

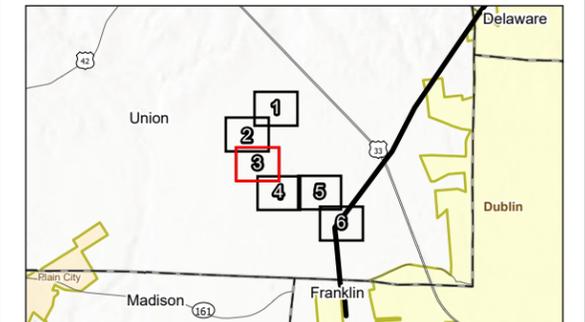


0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- National Wetlands Inventory Feature
- FEMA Flood Hazard Area*
- 100-year Floodplain
- Floodway

*No features within data frame



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner

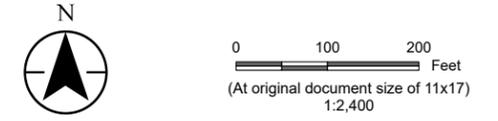


Figure No. **2**
Wetland and Waterbody Delineation Map

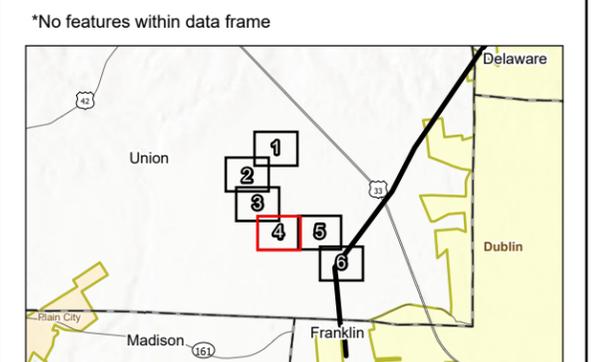
Client/Project
 AEP Ohio Transmission Company, Inc.
 Kileville-Jerome 138kV Transmission Line Project

Project Location
 Union County, Ohio

Prepared by ST on 2023-04-17
 TR by CA on 2023-05-10
 IR by KB on 2023-05-04



- Legend**
- Existing Structure
 - Existing Transmission Line
 - Proposed 138kV Transmission Line
 - Project Area
 - Photo Location
 - Existing Culvert
 - Storm Drain
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area*
 - 100-year Floodplain
 - Floodway



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KievilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



Page 4

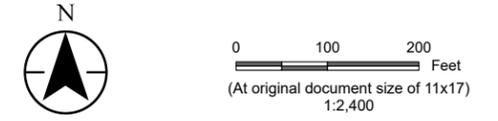
Page 6

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

Client/Project
 AEP Ohio Transmission Company, Inc.
 Kileville-Jerome 138kV Transmission Line Project

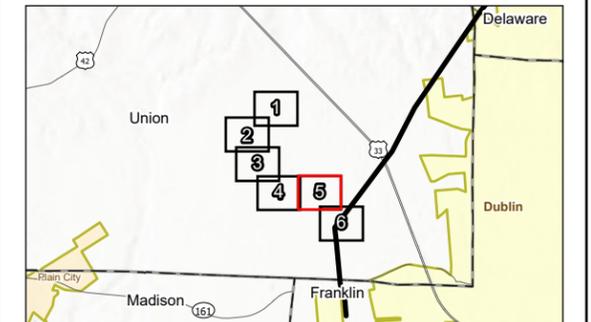
Project Location
 Union County, Ohio

Prepared by ST on 2023-04-17
 TR by CA on 2023-05-10
 IR by KB on 2023-05-04



- Legend**
- Existing Structure
 - Existing Transmission Line
 - Proposed 138kV Transmission Line
 - Project Area
 - Photo Location
 - Existing Culvert
 - Storm Drain
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area*
 - 100-year Floodplain
 - Floodway

*No features within data frame



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: NAIP 2021



Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner

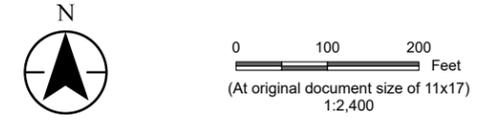


Figure No.
2
Title
Wetland and Waterbody Delineation Map

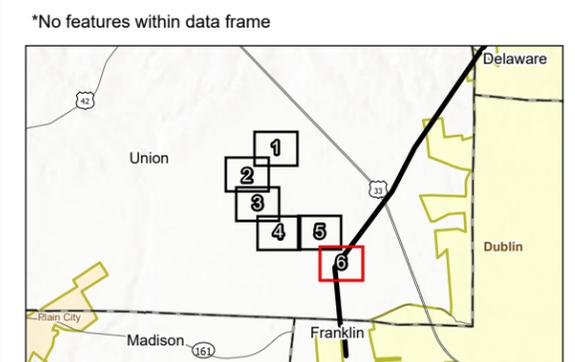
Client/Project
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

Project Location
Union County, Ohio

Prepared by ST on 2023-04-17
TR by CA on 2023-05-10
IR by KB on 2023-05-04



- Legend
- Existing Structure
 - Existing Transmission Line
 - Proposed 138kV Transmission Line
 - Project Area
 - Photo Location
 - Existing Culvert
 - Storm Drain
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area*
 - 100-year Floodplain
 - Floodway



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: NAIP 2021



Figures
May 15, 2023

B.3 HABITAT ASSESSMENT MAP

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_KievilleJerome_Eco\193708936_KievilleJerome_Eco.aprx
 Revised: 2023-05-12 By: saraturner

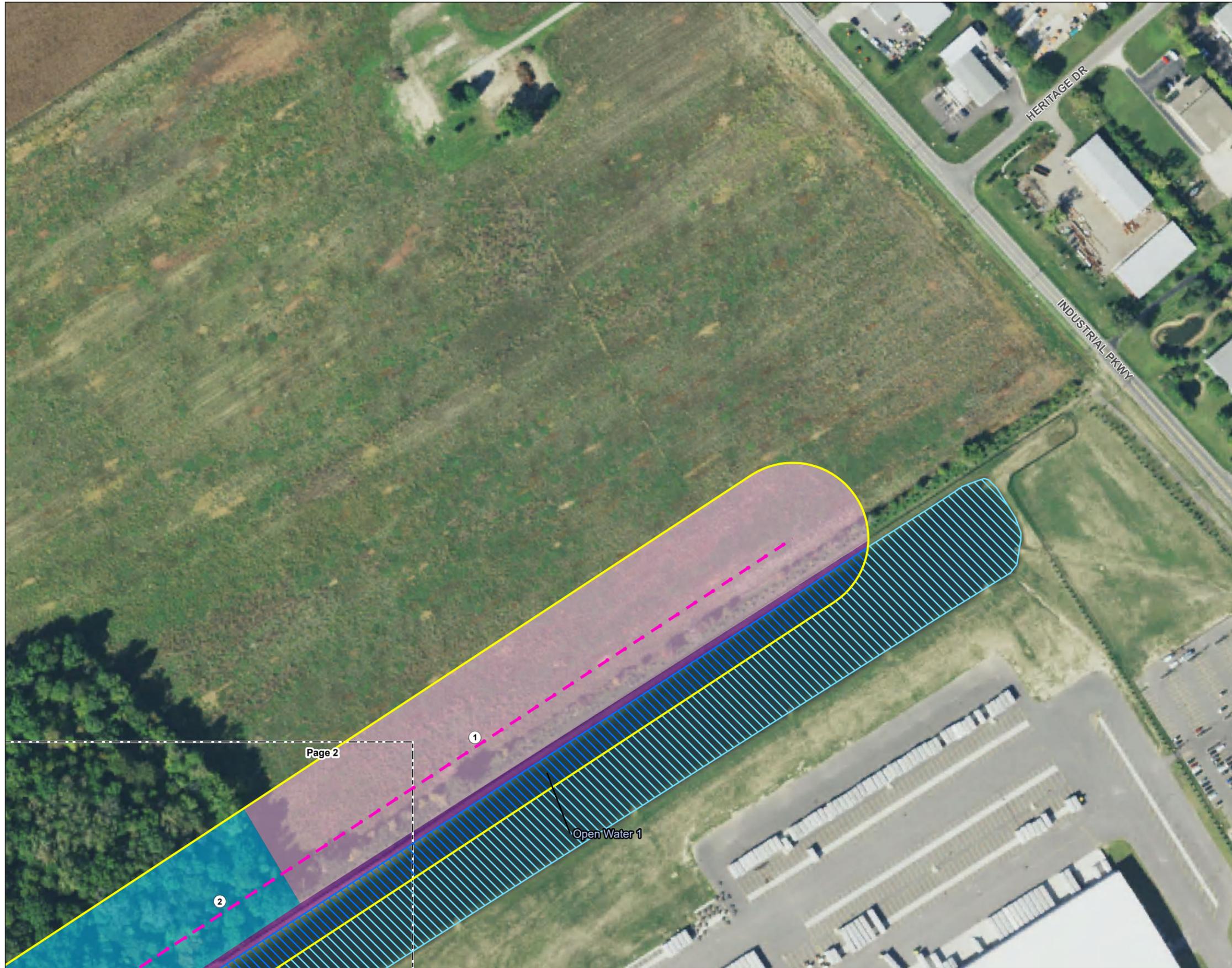


Figure No.

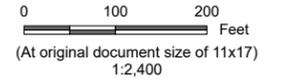
3

Title

Habitat Assessment Map

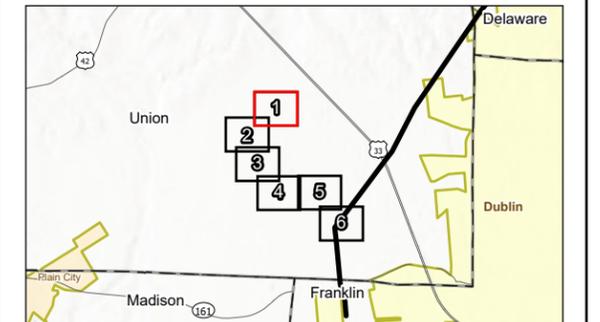
Client/Project 193708936
 AEP Ohio Transmission Company, Inc.
 Kileville-Jerome 138kV Transmission Line Project

Project Location Union County, Ohio Prepared by ST on 2023-04-17
 TR by CA on 2023-05-10
 IR by KB on 2023-05-04



Legend

- | | |
|---|-------------------------------------|
| ○ Existing Structure | ○ Field Delineated Emergent Wetland |
| — Existing Transmission Line | ○ Approximate Wetland |
| - - - Proposed 138kV Transmission Line | Habitat Area |
| □ Project Area | ■ Agricultural Field |
| ○ Photo Location | ■ Early Successional Forest |
| △ Existing Culvert | ■ Second Growth Deciduous Forest |
| ■ Storm Drain | ■ Old Field |
| ○ Upland Drainage Feature | ■ Maintained Lawn/Commercial |
| - - - Approximate Upland Drainage Feature | ■ Residential |
| ~ Field Delineated Waterway | ■ Active Construction |
| - - - Approximate Waterway | ⊠ Existing Roadway |
| ⊠ Field Delineated Open Water | |
| ⊠ Approximate Open Water | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



Figure No.

3

Title

Habitat Assessment Map

Client/Project 193708936
 AEP Ohio Transmission Company, Inc.
 Kileville-Jerome 138kV Transmission Line Project

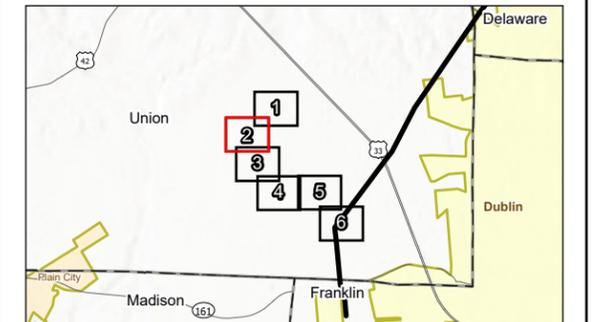
Project Location Union County, Ohio Prepared by ST on 2023-04-17
 TR by CA on 2023-05-10
 IR by KB on 2023-05-04



0 100 200 Feet
 (At original document size of 11x17)
 1:2,400

Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- △ Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- Habitat Area
- Agricultural Field
- Early Successional Forest
- Second Growth Deciduous Forest
- Old Field
- Maintained Lawn/Commercial
- Residential
- Active Construction
- Existing Roadway



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

193708936

Project Location
Union County, Ohio

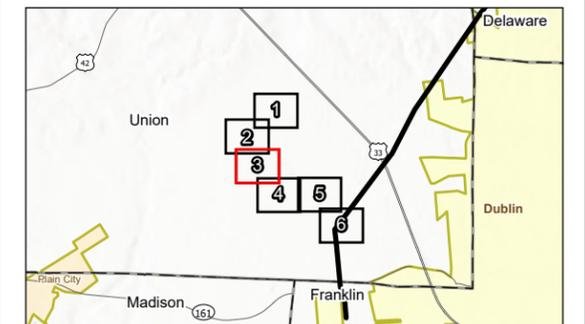
Prepared by ST on 2023-04-17
TR by CA on 2023-05-10
IR by KB on 2023-05-04



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- Habitat Area
 - Agricultural Field
 - Early Successional Forest
 - Second Growth Deciduous Forest
 - Old Field
 - Maintained Lawn/Commercial
 - Residential
 - Active Construction
 - Existing Roadway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



Figure No.

3

Title

Habitat Assessment Map

Client/Project
 AEP Ohio Transmission Company, Inc.
 Kileville-Jerome 138kV Transmission Line Project

193708936

Project Location
 Union County, Ohio

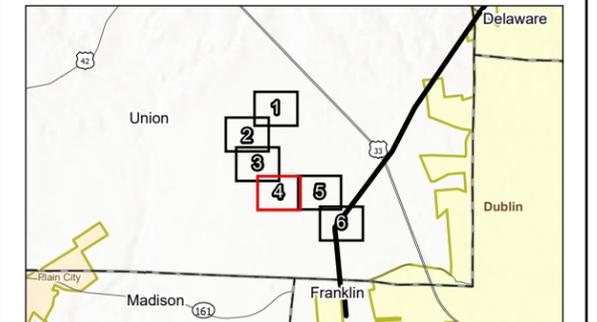
Prepared by ST on 2023-04-17
 TR by CA on 2023-05-10
 IR by KB on 2023-05-04



0 100 200 Feet
 (At original document size of 11x17)
 1:2,400

Legend

- | | |
|-------------------------------------|-----------------------------------|
| ○ Existing Structure | Field Delineated Emergent Wetland |
| Existing Transmission Line | Approximate Wetland |
| Proposed 138kV Transmission Line | Habitat Area |
| Project Area | Agricultural Field |
| ○ Photo Location | Early Successional Forest |
| △ Existing Culvert | Second Growth Deciduous Forest |
| Storm Drain | Old Field |
| Upland Drainage Feature | Maintained Lawn/Commercial |
| Approximate Upland Drainage Feature | Residential |
| Field Delineated Waterway | Active Construction |
| Approximate Waterway | Existing Roadway |
| Field Delineated Open Water | |
| Approximate Open Water | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



Page 4

Page 6

Figure No.

3

Title

Habitat Assessment Map

Client/Project 193708936
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

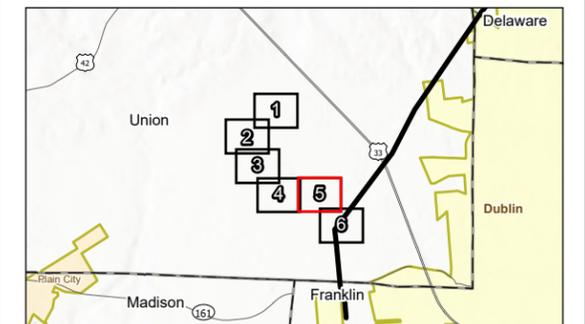
Project Location Union County, Ohio Prepared by ST on 2023-04-17
TR by CA on 2023-05-10
IR by KB on 2023-05-04



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- △ Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- Habitat Area
 - Agricultural Field
 - Early Successional Forest
 - Second Growth Deciduous Forest
 - Old Field
 - Maintained Lawn/Commercial
 - Residential
 - Active Construction
 - Existing Roadway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: NAIP 2021



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner

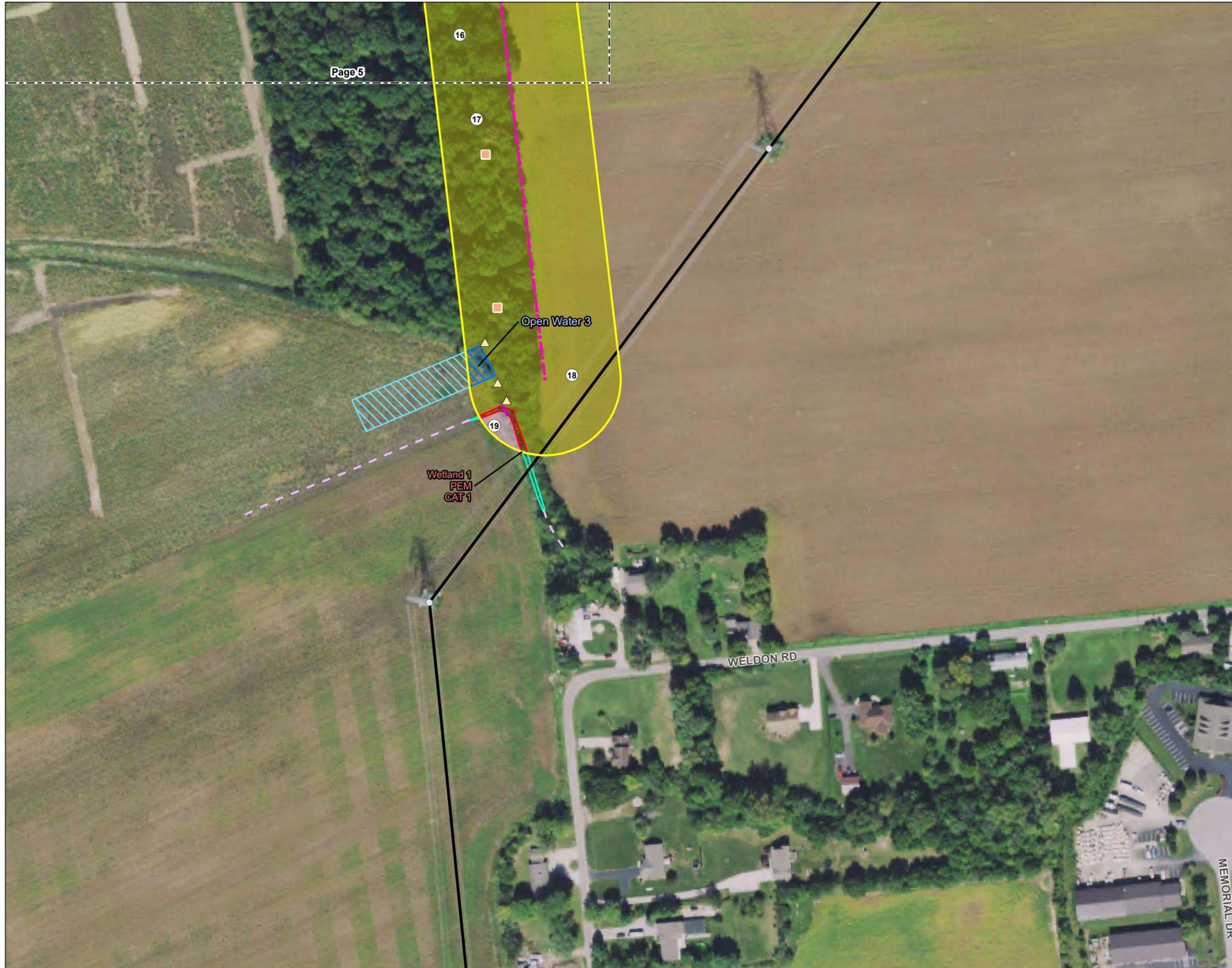


Figure No.

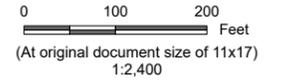
3

Title

Habitat Assessment Map

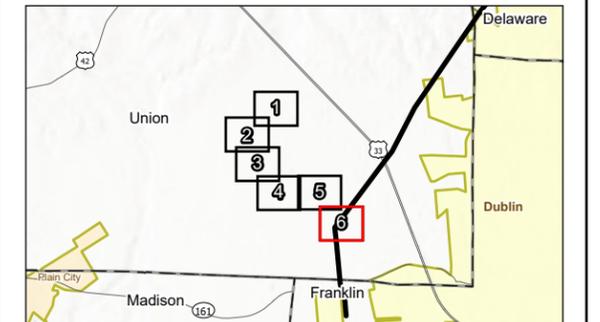
Client/Project 193708936
 AEP Ohio Transmission Company, Inc.
 Kileville-Jerome 138kV Transmission Line Project

Project Location Union County, Ohio Prepared by ST on 2023-04-17
 TR by CA on 2023-05-10
 IR by KB on 2023-05-04



Legend

- Existing Structure
- Existing Transmission Line
- Proposed 138kV Transmission Line
- Project Area
- Photo Location
- △ Existing Culvert
- Storm Drain
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Approximate Wetland
- Habitat Area
 - Agricultural Field
 - Early Successional Forest
 - Second Growth Deciduous Forest
 - Old Field
 - Maintained Lawn/Commercial
 - Residential
 - Active Construction
 - Existing Roadway



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: NAIP 2021



Figures
May 15, 2023

B.4 BAT HIBERNACULA DESKTOP STUDY MAP

Bat Hibernacula Desktop Study Map

Client/Project
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

193708936

Project Location
Union County, Ohio

Prepared by RA on 2023-04-05
TR by CA on 2023-05-10
IR by KB on 2023-05-04



0 2,000 4,000 Feet
(At original document size of 11x17)
1:48,000

Legend

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

*No features within data frame

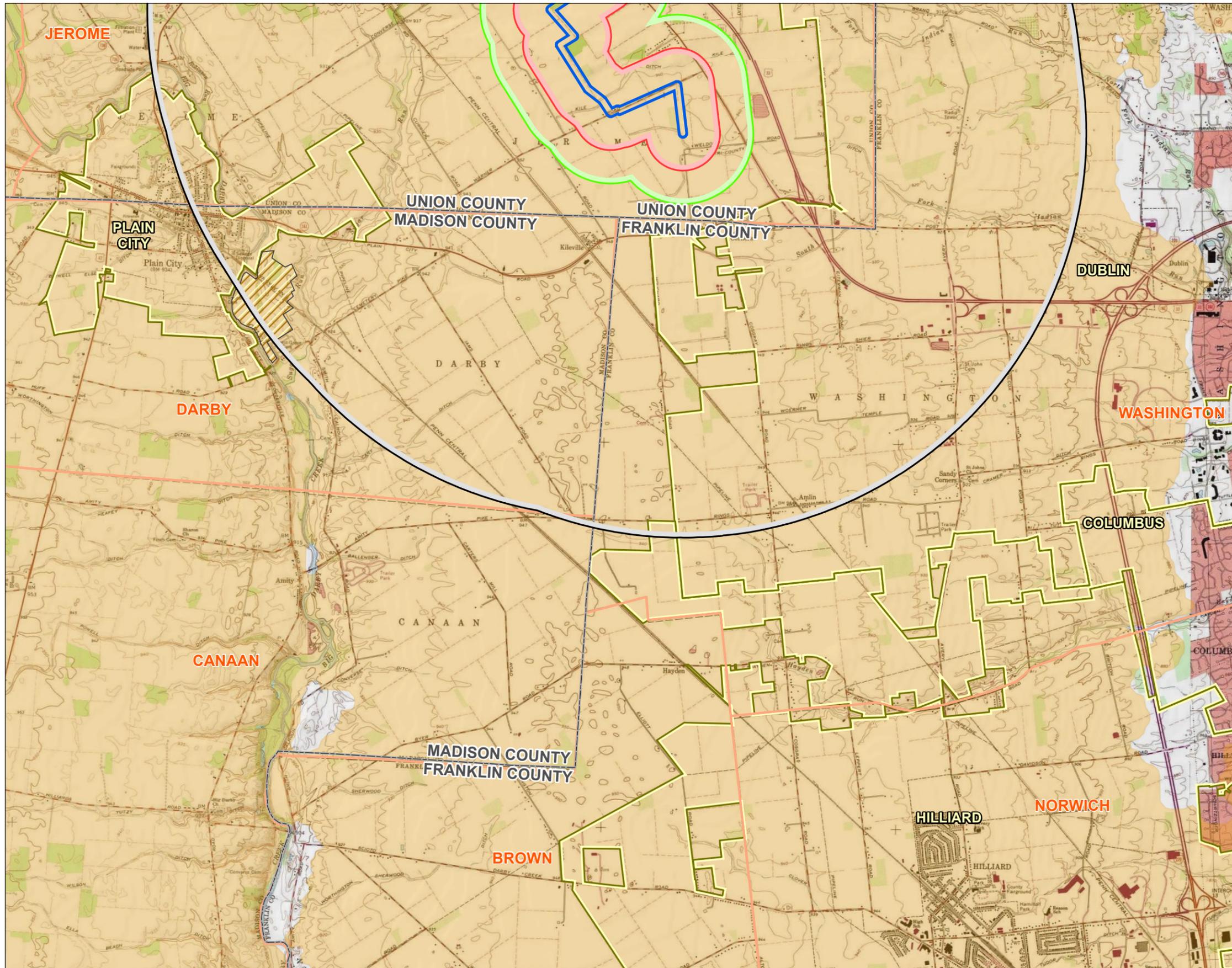


Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, ODNr, NADS
3. Background: USGS 7.5' Topographic Quadrangles - Hilliard, OH (1974), Shawnee Hills, OH (1975)



\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_data\gis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner

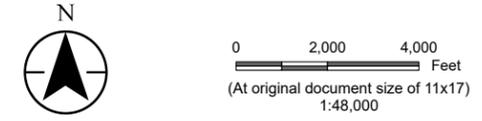
\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193708932-193708936_Jerome_Loop\03_datagis_cad\gis\mxd\eco\193708936_KilevilleJerome_Eco.aprx Revised: 2023-05-12 By: saraturner



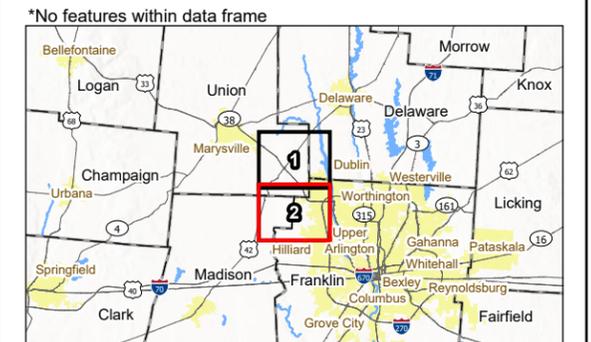
Title
Bat Hibernacula Desktop Study Map

Client/Project 193708936
AEP Ohio Transmission Company, Inc.
Kileville-Jerome 138kV Transmission Line Project

Project Location Union County, Ohio Prepared by RA on 2023-04-05
TR by CA on 2023-05-10
IR by KB on 2023-05-04



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



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, ODNR, NADS
3. Background: USGS 7.5' Topographic Quadrangles - Hilliard, OH (1974), Shawnee Hills, OH (1975)



Field Collected Data Forms
May 15, 2023

Appendix C **FIELD COLLECTED DATA FORMS**

C.1 WETLAND DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Kileville-Jerome 138 kV Transmission Line Project City/County: Union Sampling Date: 02/08/2023
 Applicant/Owner: AEP Ohio Transmission Company, Inc. State: Ohio Sampling Point: SP1
 Investigator(s): S. Heitzenrater, T. Gillette Section, Township, Range: N/A
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope %: 0
 Subregion (LRR or MLRA): LRR M, MLRA Lat: 40.13176 Long: -83.214212 Datum: WGS84
 Soil Map Unit Name: Brookston silty clay loam, fine texture, 0 to 2 percent slopes NWI classification: PFO1C
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: (Explain alternative procedures here or in a separate report.) NWI investigation point	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1. <u>Acer rubrum</u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
2. <u>Fagus grandifolia</u>	25	Yes	FACU	
3. _____				
4. _____				
5. _____				
<u>65</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				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 = _____
1. <u>Lindera benzoin</u>	60	Yes	FACW	
2. <u>Ulmus americana</u>	10	No	FACW	
3. _____				
5. _____				
<u>70</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				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) <small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small>
1. <u>Lindera benzoin</u>	10	Yes	FACW	
2. <u>Carex grayi</u>	3	Yes	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>13</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. _____				
2. _____				
<u>0</u> = Total Cover				

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

SOIL

Sampling Point: SP1

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		
0-21	10YR 3/2	100					Clay Loam	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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 type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if observed): Type: <u>N/A</u> Depth (inches): <u>N/A</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<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 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)	

Field Observations:	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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)	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Kileville-Jerome 138 kV Transmission Line Project City/County: Union Sampling Date: 02/08/2023
 Applicant/Owner: AEP Ohio Transmission Company, Inc. State: Ohio Sampling Point: SP2
 Investigator(s): S. Heitzenrater, T. Gillette Section, Township, Range: N/A
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope %: 0
 Subregion (LRR or MLRA): LRR M, MLRA Lat: 40.131335 Long: -83.215005 Datum: WGS84
 Soil Map Unit Name: Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes NWI classification: PFO1C
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation N, Soil N, or Hydrology N 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> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: (Explain alternative procedures here or in a separate report.) NWI investigation point	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1. <u>Acer saccharum</u>	50	Yes	FACU	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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
2. <u>Fagus grandifolia</u>	40	Yes	FACU	
3. _____				
4. _____				
5. _____				
<u>90</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>130</u> x 4 = <u>520</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>135</u> (A) <u>535</u> (B) Prevalence Index = B/A = <u>3.96</u>
<u>40</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>Acer saccharum</u>	40	Yes	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
<u>40</u> = Total Cover				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) <small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small>
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Smilax hispida</u>	5	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				
1. _____				
2. _____				
<u>0</u> = Total Cover				

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

SOIL

Sampling Point: SP2

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			
0-21	10YR 3/3		97	10YR 4/4	3	C	M	Clay Loam		

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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 type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if observed): Type: <u>N/A</u> Depth (inches): <u>N/A</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 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)	

Field Observations:	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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): _____	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Kileville-Jerome 138 kV Transmission Line Project City/County: Union Sampling Date: 02/08/2023
 Applicant/Owner: AEP Ohio Transmission Company, Inc. State: Ohio Sampling Point: SP3
 Investigator(s): S. Heitzenrater, T. Gillette Section, Township, Range: N/A
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope %: 0
 Subregion (LRR or MLRA): LRR M, MLRA Lat: 40.123584 Long: -83.212179 Datum: WGS84
 Soil Map Unit Name: Brookston silty clay loam, fine texture, 0 to 2 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation N, Soil N, or Hydrology N 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> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>3</u> x 4 = <u>12</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>3</u> (A) <u>12</u> (B) Prevalence Index = B/A = <u>4</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</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. <u>Taraxacum officinale</u>	<u>3</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>3</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)
 97% bare ground and soybean stubble

SOIL

Sampling Point: SP3

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		
0-21	10YR 3/3	100					Clay Loam	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<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"/> Dark Surface (S7)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Redox Depressions (F8)
	<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)

Restrictive Layer (if observed): Type: <u>N/A</u> Depth (inches): <u>N/A</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 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)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u>	
Water Table Present Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u>	
Saturation Present Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Kileville-Jerome 138kV Transmission Line Project City/County: Union Sampling Date: 02/08/2023
 Applicant/Owner: AEP Ohio Transmission Company, Inc. State: Ohio Sampling Point: SP4
 Investigator(s): S. Heitzenrater, M. Kearns Section, Township, Range: N/A
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR M, MLRA Lat: 40.11665635 Long: -83.08088076 Datum: WGS84
 Soil Map Unit Name: Brookston silty clay loam, fine texture, 0 to 2 percent slopes NWI classification: R4SBC
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland 1. Area is currently under construction and surrounding area has been recently graded and cleared	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Leersia oryzoides</u>	80	Yes	OBL	
2. <u>Bidens frondosa</u>	30	Yes	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>110</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Hydrophytic Vegetation Indicators: <u>X</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.				
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>				

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

SOIL

Sampling Point: SP4

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				
0-21	2.5Y 3/2	93	10YR 4/6	7	C	M	Clay Loam			

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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)	

Restrictive Layer (if observed): Type: <u>N/A</u> Depth (inches): <u>N/A</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 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)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>	
Water Table Present Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u>	
Saturation Present Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Kileville-Jerome 138 kV Transmission Line Project City/County: Union Sampling Date: 2/08/2023
 Applicant/Owner: AEP Ohio Transmission Company, Inc. State: Ohio Sampling Point: SP5
 Investigator(s): S. Heitzenrater, T. Gillette Section, Township, Range: N/A
 Landform (hillside, terrace, etc.): Side slope Local relief (concave, convex, none): Linear Slope %: 0
 Subregion (LRR or MLRA): LRR M, MLRA Lat: 40.11664475 Long: -83.19758392 Datum: WGS84
 Soil Map Unit Name: Brookston silty clay loam, fine texture, 0 to 2 percent slopes NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland 1, upland. Recently graded and under construction	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Ambrosia trifida</u>	35	Yes	FAC	
2. <u>Setaria faberi</u>	35	Yes	FACU	
3. <u>Poa pratensis</u>	20	Yes	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

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

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>
--	--------------	----------------

Remarks: (Include photo numbers here or on a separate sheet.)
 10% bare ground

SOIL

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth (inches)	Matrix			Redox Features					Texture	Remarks	
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²				
0-10	10YR 3/3		90	10YR 6/4	10	C	M	Clay Loam	Mixed fill		
10-21	10YR 3/3		50	10YR 6/4	50	C	M	Clay Loam	Mixed fill		

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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 type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if observed): Type: <u>N/A</u> Depth (inches): <u>N/A</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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 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)	

Field Observations:	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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): _____	

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Kileville – Jerome 138 kV Transmission Line Project City/County: Union Sampling Date: 02/08/2023
 Applicant/Owner: AEP Ohio Transmission Company, Inc. State: Ohio Sampling Point: SP6
 Investigator(s): S. Heitzenrater, T. Gillette Section, Township, Range: N/A
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope %: 2
 Subregion (LRR or MLRA): _____ Lat: 40.118777 Long: -83.198026 Datum: WGS84
 Soil Map Unit Name: Brookston silty clay loam NWI classification: PFO1A

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: (Explain alternative procedures here or in a separate report.) Upland NWI investigation point. Recently clear cut and graded.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				

Hydrophytic Vegetation Indicators:
 _____ 1 - Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
 _____ 3 - Prevalence Index is ≤3.0¹
 _____ 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
 100% bare ground

SOIL

Sampling Point: SP6

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		
0-7	10YR 4/2	100		0			Clay Loam	
7-21	10YR 4/3	70	10YR 5/6	30	C	M	Clay Loam	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- 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)

Restrictive Layer (if observed):

Type: N/A
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

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 Depth (inches): _____
 Water Table Present Yes No Depth (inches): _____
 Saturation Present Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks:

KILEVILLE – JEROME 138 KV TRANSMISSION LINE PROJECT ECOLOGICAL SURVEY REPORT

Field Collected Data Forms
May 15, 2023

C.2 ORAM FORMS

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

Instructions

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

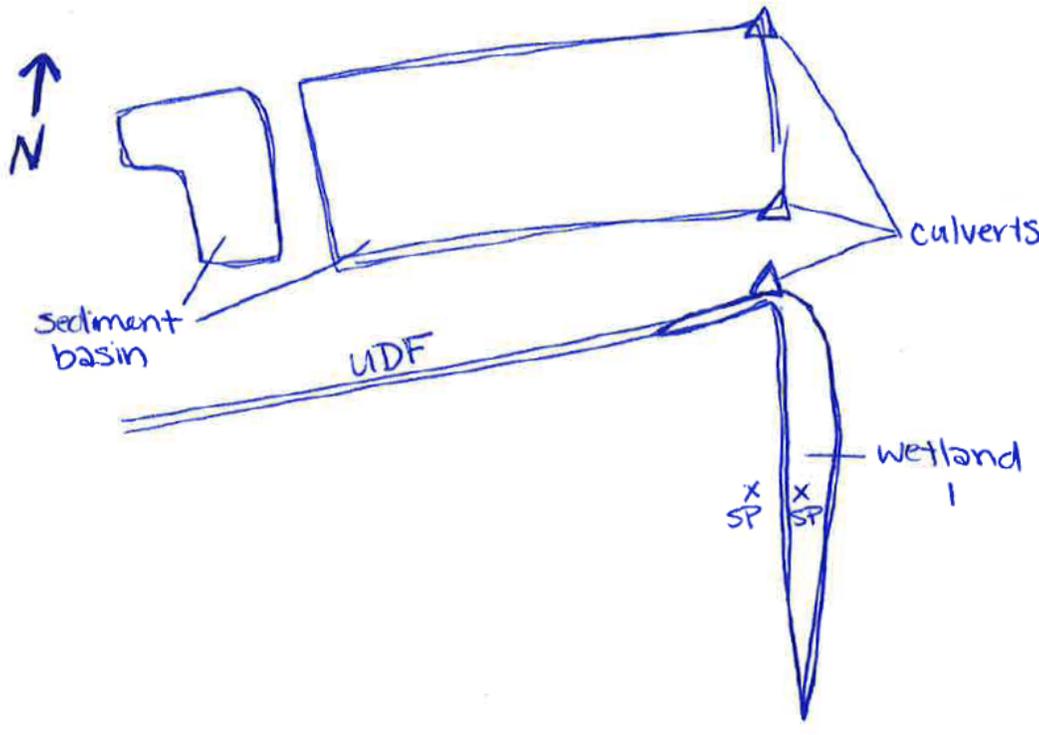
The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated.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

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

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

Background Information

Name:	Samantha Heitzenrater	
Date:	2/8/2023	
Affiliation:	Stantec	
Address:	1500 Lake Shore Drive, Suite 100, Columbus, OH 43204	
Phone Number:	614-607-2458	
e-mail address:	samantha.heitzenrater@stantec.com	
Name of Wetland:	Wetland 1	
Vegetation Communit(ies):	PEM	
HGM Class(es):	Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.		
Lat/Long or UTM Coordinate	40.116748, -83.197607	
USGS Quad Name	Hilliard	
County	Union	
Township	Jerome	
Section and Subsection	N/A	
Hydrologic Unit Code	050600011203	
Site Visit	2/8/2023	
National Wetland Inventory Map	No	
Ohio Wetland Inventory Map	No	
Soil Survey	Union County Soil Survey	
Delineation report/map	Wetland and Waterbody Delineation Report	

Name of Wetland: Wetland 1	
Wetland Size (acres, hectares): 0.03 acre within Project area, 0.05 acre total	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
 <p>The sketch is a hand-drawn diagram in blue ink. On the left, a north arrow points upwards. To its right is a rectangular area labeled 'sediment basin'. Further right is a larger rectangular area labeled 'UDF'. To the right of the UDF are two small triangles labeled 'culverts'. Below the UDF and culverts is a long, narrow, teardrop-shaped area labeled 'wetland 1'. Inside this wetland area, there are two 'X' marks, each with 'SP' written below it. The entire sketch is contained within a large rectangular box.</p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 16	Category: 1

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.

Kileville-Jerome 138kV Transmission Line Project

Samantha Heitzenrater

2/8/2023

#	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Narrative Rating

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

Kileville-Jerome 138kV Transmission Line Project Samantha Heitzenrater

2/8/2023

#	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 <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Go to Question 2	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland. Go to Question 3	NO <input checked="" type="checkbox"/> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 4	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 5	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 1 wetland Go to Question 6	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 7	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 8a	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland. Go to Question 8b	NO <input checked="" type="checkbox"/> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Go to Question 9b	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Go to Question 10	NO <input type="checkbox"/> 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 <input type="checkbox"/> Go to Question 9d	NO <input type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 10	NO <input type="checkbox"/> 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 <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Go to Question 10	NO <input type="checkbox"/> 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 <input type="checkbox"/> Wetland is a Category 3 wetland. Go to Question 11	NO <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO <input checked="" type="checkbox"/> Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Kileville-Jerome 138kV Line Project	Rater(s): Samantha Heitzenrater	Date: 2/8/2023
--	--	-----------------------

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

3	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

5	8
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input checked="" type="checkbox"/> stormwater input 	<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

7	15
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

15
subtotal this page

Site: Kileville-Jerome 138kV Line Project	Rater(s): Samantha Heitzenrater	Date: 2/8/2023
--	--	-----------------------

15

subtotal first page

0	15
---	----

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1	16
---	----

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

16

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES <input type="checkbox"/> Wetland is categorized as a Category 3 wetland	NO <input checked="" type="checkbox"/>	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 <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status	NO <input checked="" type="checkbox"/>	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 <input type="checkbox"/> Wetland is categorized as a Category 1 wetland	NO <input checked="" type="checkbox"/>	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 <input checked="" type="checkbox"/> Wetland is assigned to the appropriate category based on the scoring range	NO <input type="checkbox"/>	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 <input type="checkbox"/> Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO <input checked="" type="checkbox"/>	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 <input type="checkbox"/> Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO <input checked="" type="checkbox"/> 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
Category 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End of Ohio Rapid Assessment Method for Wetlands.

Field Collected Data Forms
May 15, 2023

C.3 HHEI STREAM FORMS

SITE NAME/LOCATION Kileville-Jerome 138 kV Transmission Line Project (Stream1/Kile Ditch)
 SITE NUMBER Stream 1 RIVER BASIN _____ RIVER CODE 5060001120 DRAINAGE AREA (mi²) < 1
 LENGTH OF STREAM REACH (ft) 200 LAT 40.120518 LONG -83.208943 RIVER MILE _____
 DATE 3/30/23 SCORER T.Gillette COMMENTS Perennial

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY two</u> predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">TYPE</th> <th style="width: 30%;">PERCENT</th> <th style="width: 10%;">TYPE</th> <th style="width: 30%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">0%</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td style="text-align: center;">40%</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm)[16 pts]</td> <td style="text-align: center;">0%</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td style="text-align: center;">10%</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td style="text-align: center;">0%</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td style="text-align: center;">0%</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm)[12 pts]</td> <td style="text-align: center;">0%</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td style="text-align: center;">0%</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm)[9 pts]</td> <td style="text-align: center;">0%</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td style="text-align: center;">0%</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td style="text-align: center;">50%</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td style="text-align: center;">0%</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ 0% (A) 9 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	0%	<input checked="" type="checkbox"/> SILT [3 pt]	40%	<input type="checkbox"/> BOULDER (>256 mm)[16 pts]	0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	10%	<input type="checkbox"/> BEDROCK [16 pts]	0%	<input type="checkbox"/> FINE DETRITUS [3 pts]	0%	<input type="checkbox"/> COBBLE (65-256 mm)[12 pts]	0%	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	0%	<input type="checkbox"/> GRAVEL (2-64 mm)[9 pts]	0%	<input type="checkbox"/> MUCK [0 pts]	0%	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	50%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 10px; text-align: center; margin: 10px auto; width: 60px;">12</div> <p style="text-align: center;">A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> BLDR SLABS [16 pts]	0%	<input checked="" type="checkbox"/> SILT [3 pt]	40%																										
<input type="checkbox"/> BOULDER (>256 mm)[16 pts]	0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	10%																										
<input type="checkbox"/> BEDROCK [16 pts]	0%	<input type="checkbox"/> FINE DETRITUS [3 pts]	0%																										
<input type="checkbox"/> COBBLE (65-256 mm)[12 pts]	0%	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	0%																										
<input type="checkbox"/> GRAVEL (2-64 mm)[9 pts]	0%	<input type="checkbox"/> MUCK [0 pts]	0%																										
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	50%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%																										
<p>2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <u>ONLY</u> one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 15</p>	<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p style="text-align: center;">Pool Depth Max = 30</p> <div style="border: 1px solid black; padding: 10px; text-align: center; margin: 10px auto; width: 60px;">25</div>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]																												
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]																												
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																												
<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <u>ONLY</u> one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS <u>TOB W- 7 ft D- 1.5 ft OHWM W- 6 ft D- 1 ft</u> AVERAGE BANKFULL WIDTH (meters) 2</p>	<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p style="text-align: center;">Bankfull Width Max=30</p> <div style="border: 1px solid black; padding: 10px; text-align: center; margin: 10px auto; width: 60px;">20</div>																						
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																												
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																												
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																													

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

- WWH Name: North Fork Indian Run Distance from Evaluated Stream 1.5 mi
- CWH Name: _____ Distance from Evaluated Stream _____
- EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Hillard NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Union Township/City: Jerome

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/28/23 Quantity: 0.1"

Photo-documentation Notes: Upstream, Downstream, Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) 6 Dissolved Oxygen (mg/l) _____ pH (S.U.) 10.5 Conductivity (umhos/cm) 87

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

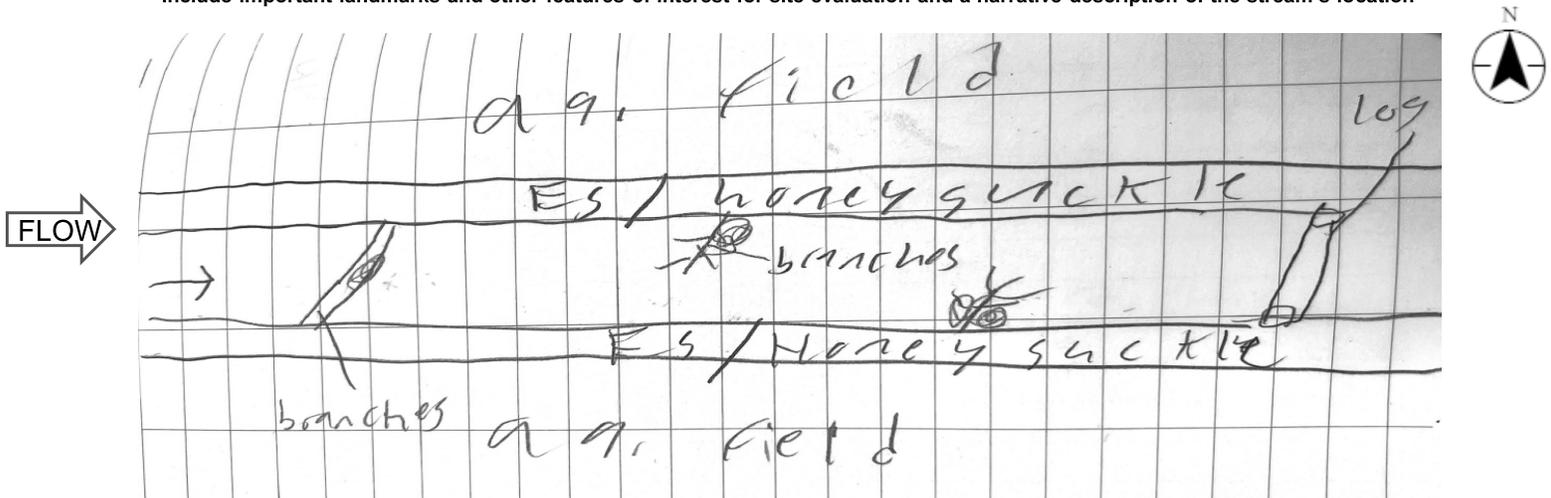
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION Kileville-Jerome 138 kV Project (Stream 2)
 SITE NUMBER Stream 2 RIVER BASIN _____ RIVER CODE 5060001120 DRAINAGE AREA (mi²) <1
 LENGTH OF STREAM REACH (ft) 45 LAT 40.120433 LONG -83.209311 RIVER MILE _____
 DATE 3/30/23 SCORER T.Gillette COMMENTS intermittent

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY two</i> predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B				HHEI Metric Points Substrate Max = 40 14 A + B																												
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr><td><input type="checkbox"/> BLDR SLABS [16 pts]</td><td style="text-align: center;">0%</td></tr> <tr><td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td><td style="text-align: center;">10%</td></tr> <tr><td><input type="checkbox"/> BEDROCK [16 pts]</td><td style="text-align: center;">0%</td></tr> <tr><td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td><td style="text-align: center;">10%</td></tr> <tr><td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td><td style="text-align: center;">0%</td></tr> <tr><td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td><td style="text-align: center;">40%</td></tr> </tbody> </table>	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]		0%	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	10%	<input type="checkbox"/> BEDROCK [16 pts]	0%	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10%	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	0%	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	40%	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr><td><input type="checkbox"/> SILT [3 pt]</td><td style="text-align: center;">10%</td></tr> <tr><td><input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td><td style="text-align: center;">30%</td></tr> <tr><td><input type="checkbox"/> FINE DETRITUS [3 pts]</td><td style="text-align: center;">0%</td></tr> <tr><td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td><td style="text-align: center;">0%</td></tr> <tr><td><input type="checkbox"/> MUCK [0 pts]</td><td style="text-align: center;">0%</td></tr> <tr><td><input type="checkbox"/> ARTIFICIAL [3 pts]</td><td style="text-align: center;">0%</td></tr> </tbody> </table>	TYPE	PERCENT	<input type="checkbox"/> SILT [3 pt]	10%	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	30%	<input type="checkbox"/> FINE DETRITUS [3 pts]	0%	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	0%	<input type="checkbox"/> MUCK [0 pts]	0%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>30%</u> (A) 9 (B) 5	
TYPE	PERCENT																															
<input type="checkbox"/> BLDR SLABS [16 pts]	0%																															
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	10%																															
<input type="checkbox"/> BEDROCK [16 pts]	0%																															
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10%																															
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	0%																															
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	40%																															
TYPE	PERCENT																															
<input type="checkbox"/> SILT [3 pt]	10%																															
<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	30%																															
<input type="checkbox"/> FINE DETRITUS [3 pts]	0%																															
<input type="checkbox"/> CLAY or HARDPAN [0 pt]	0%																															
<input type="checkbox"/> MUCK [0 pts]	0%																															
<input type="checkbox"/> ARTIFICIAL [3 pts]	0%																															
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5																																
2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box):				Pool Depth Max = 30 5																												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td style="width: 50%;"><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input checked="" type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table>					<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]																															
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5pts]																															
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																															
COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 4																																
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONLY</i> one box):				Bankfull Width Max=30 15																												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td style="width: 50%;"><input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table>					<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																							
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																															
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																															
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																																
COMMENTS <u>TOB W- 4 ft D- 1 ft</u> <u>OHWM W- 1.5 ft D- 6 in</u> AVERAGE BANKFULL WIDTH (meters) 1.2																																

This information **must** also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

- WWH Name: Kile Ditch Distance from Evaluated Stream 45 ft
- CWH Name: _____ Distance from Evaluated Stream _____
- EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Hillard NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Union Township/City: Jerome

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 3/28/23 Quantity: 0.1"

Photo-documentation Notes: upstream, downstream, substrate

Elevated Turbidity? (Y/N): N Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) 7.5 Dissolved Oxygen (mg/l) _____ pH (S.U.) 9.6 Conductivity (umhos/cm) 60

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

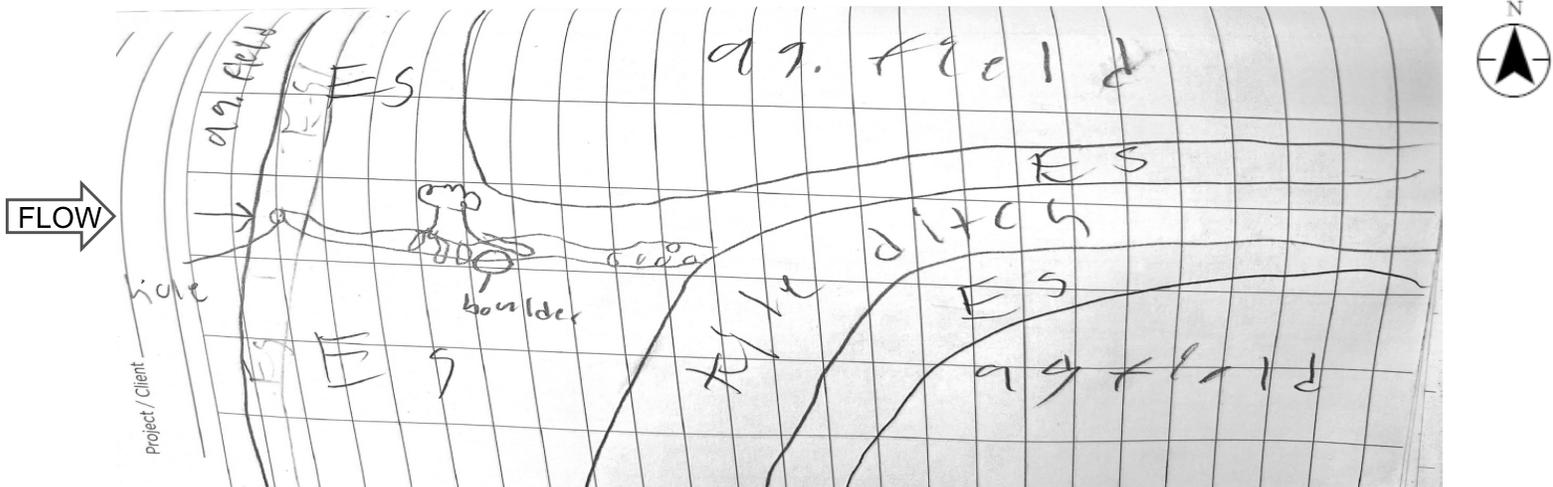
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Representative Photographs
May 15, 2023

Appendix D **REPRESENTATIVE PHOTOGRAPHS**

D.1 **WETLAND AND WATERBODY PHOTOGRAPHS**

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 1. View of wetland determination sample point (SP1; upland). Photograph taken facing east.



Photo Location 1. View of wetland determination sample point (SP1; upland), soil profile.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 2. View of wetland determination sample point (SP2; upland). Photograph taken facing north.



Photo Location 2. View of wetland determination sample point (SP2; upland), soil profile.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 3. View of Open Water 1. Photograph taken facing east.



Photo Location 4. View of wetland determination sample point (SP3; upland). Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 4. View of wetland determination sample point (SP3; upland), soil profile.



Photo Location 5. View of Stream 1 (Kile Ditch, perennial). Photograph taken facing west, upstream.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 5. View of Stream 1 (Kile Ditch, perennial). Photograph taken facing east, downstream.



Photo Location 5. View of Stream 1 (Kile Ditch, perennial), typical substrates.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 6. View of Stream 1 (Kile Ditch, perennial). Photograph taken facing west, upstream.



Photo Location 6. View of Stream 1 (Kile Ditch, perennial). Photograph taken facing east, downstream.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 6. View of Stream 1 (Kile Ditch, perennial), typical substrates.



Photo Location 7. View of Stream 1 (Kile Ditch, perennial). Photograph taken facing southwest, upstream.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 7. View of Stream 1 (Kile Ditch, perennial). Photograph taken facing northeast, downstream.



Photo Location 7. View of Stream 1 (Kile Ditch, perennial), typical substrates.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 8. View of Stream 2 (intermittent). Photograph taken facing west, upstream.



Photo Location 8. View of Stream 2 (intermittent). Photograph taken facing northeast, downstream.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 8. View of Stream 2 (intermittent), typical substrates.



Photo Location 9. View of typical upland drainage feature (UDF). Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 9. View of typical upland drainage feature (UDF). Photograph taken facing west.



Photo Location 10. View of Open Water 2. Photograph taken facing northwest.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 10. View of Open Water 2. Photograph taken facing southwest.



Photo Location 11. View of typical culvert. Photograph taken facing southeast.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 12. View of typical storm drain. Photograph taken facing southeast.



Photo Location 13. View of Open Water 3. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 14. View of wetland determination sample point (SP4; PEM) and Wetland 1 (PEM). Photograph taken facing north.



Photo Location 14. View of wetland determination sample point (SP4; PEM), soil profile.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 14. View of Wetland 1 (PEM). Photograph taken facing east.



Photo Location 14. View of Wetland 1 (PEM). Photograph taken facing south.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 14. View of Wetland 1 (PEM). Photograph taken facing west.



Photo Location 15. View of Wetland 1 (PEM). Photograph taken facing north.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 15. View of Wetland 1 (PEM). Photograph taken facing east.



Photo Location 15. View of Wetland 1 (PEM). Photograph taken facing south.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 16. View of wetland determination sample point (SP5; upland). Photograph taken facing west.



Photo Location 16. View of wetland determination sample point (SP5; upland), soil profile.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 17. View of wetland determination sample point (SP6; upland). Photograph taken facing north.



Photo Location 17. View of wetland determination sample point (SP6; upland). Photograph taken during previous delineation, facing northwest.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 17. View of wetland determination sample point (SP6; upland), soil profile. Taken during previous delineation.

Representative Photographs
May 15, 2023

D.2 HABITAT PHOTOGRAPHS

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 1. View of old field habitat. Photograph taken facing north.



Photo Location 2. View of second growth deciduous forest habitat. Photograph taken facing north.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 3. View of maintained lawn/commercial habitat. Photograph taken facing south.



Photo Location 4. View of maintained lawn/commercial and agricultural field habitats. Photograph taken facing northwest.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 5. View of agricultural field habitat. Photograph taken facing west.



Photo Location 6. View of early successional forest habitat. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 7. View of maintained lawn/commercial habitat. Photograph taken facing southeast.



Photo Location 8. View of early successional forest and agricultural fields habitats. Photograph taken facing south.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 9. View of agricultural field habitat. Photograph taken facing north.



Photo Location 10. View of agricultural field habitat. Photograph taken facing north.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 11. View of active construction. Photograph taken facing east.



Photo Location 12. View of residential habitat. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 13. View of active construction. Photograph taken facing south.



Photo Location 14. View of maintained lawn/commercial habitat. Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 15. View of active construction. Photograph taken facing north.



Photo Location 16. View of active construction. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 17. View of active construction. Photograph taken facing north.



Photo Location 18. View of active construction. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Kileville – Jerome 138 kV Transmission Line Project
Union County, Ohio



Photo Location 19. View of old field habitat and active construction. Photograph taken facing south.

Agency Correspondence
May 15, 2023

Appendix E AGENCY CORRESPONDENCE



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

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

March 8, 2023

Michelle Kearns
Stantec Consulting Services, Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204

Re: 23-0176; AEP Kileville - Jerome 138 kV Line Project

Project: The proposed project involves the construction of a greenfield 138 kilovolt (kV) line from the proposed Kileville Station to the proposed Jerome Station within a 300-foot study corridor.

Location: The proposed project is located in Jerome Township, Union 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: The Natural Heritage Database has the following data within one mile of the project area:

Least Bittern (*Ixobrychus exilis*), T
Sora Rail (*Porzana carolina*), SC
King Rail (*Rallus elegans*), E
Virginia Rail (*Rallus limicola*), SC

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an 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 Indiana bat (*Myotis sodalis*), 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 threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible.

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

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

Federally Endangered

snuffbox (*Epioblasma triquetra*)
Northern riffleshell (*Epioblasma torulosa rangiana*)
clubshell (*Pleurobema clava*)
rayed bean (*Villosa fabalis*)

Federally Threatened

rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered

elephant-ear (*Elliptio crassidens crassidens*)

State Threatened

pondhorn (*Unio merus tetralasmus*)

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

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

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

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

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

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

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

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

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

Mike Pettegrew
Environmental Services Administrator

United States Department of the Interior



FISH AND WILDLIFE SERVICE

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



March 2, 2023

Project Code: 2023-0027801

Dear Ms. Kearns:

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

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

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

confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.

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

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

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

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

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

Sincerely,



Patrice Ashfield
Field Office Supervisor

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

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

11/6/2023 9:45:22 AM

in

Case No(s). 23-1009-EL-BLN

Summary: Letter of Notification Kileville – Jerome 138-kV Transmission Line
Project. electronically filed by Hector Garcia-Santana on behalf of Ohio Power
Company.