

# Letter of Notification Innovation 138kV Station Project



An **AEP** Company

BOUNDLESS ENERGY™

PUCO Case No. 21-1083-EL-BLN

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

Submitted by:  
AEP Ohio Transmission Company, Inc.

November 22, 2021

Letter of Notification

**AEP Ohio Transmission Company, Inc. (AEP Ohio Transco)  
Innovation 138kV Station Project**

4906-6-05

American Electric Power Ohio Transmission Company, Incorporated (the “Company”) provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

**B(1) Project Description**

**The name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification.**

The Company has identified the need to construct the Innovation 138 kV Station Project (the “Project”), in the City of New Albany, Jersey Township, Licking County, Ohio. The Project consists of constructing a new approximately 9 acre 138 kV electric transmission substation in the southwest corner of the intersection of Jug Street and Clover Valley Road. The Project is located on property currently owned by a customer and will support the customer’s new development in the area. The station will receive looped service from the Babbitt-Kirk 138 kV circuit. In addition, the existing Conesville-Corridor 345 kV transmission line that crosses the customer’s property will need to be rerouted for construction of the Project. The line extension to the Babbitt-Kirk 138 kV circuit and to the customer, as well as the reroute of the Conesville-Corridor 345 kV line will be filed separately with OPSB.

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

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

*(3) Constructing a new electric power transmission substation.*

The Project has been assigned PUCO Case No. 21-1083-EL-BLN.

## **B(2) Statement of Need**

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

A customer has requested a new substation to serve their facility requiring 64 MW of initial load and 256 MW of peak demand. To meet the customer's needs, AEP Ohio Transco will be required to construct a new 138 kV station, named Innovation Station, with seven breakers in a breaker and half configuration. In order to serve the customer, the Company will also be required to construct approximately 2 miles of 138 kV double circuit transmission line from Innovation Station to the Babbitt – Kirk 138 kV circuit. Furthermore, Ohio Power Company will be required to reroute the existing Conesville-Corridor 345kV transmission line to the north side of the new station site to accommodate the station configuration. The customer has requested an in-service date of March, 31, 2023 for the initial load.

The addition of Innovation Station also benefits existing customers by creating a through-path. Because the Innovation Station will interconnect with the Babbitt-Kirk 138 kV circuit, which serves load to Hazelton Switch (8.75 MW peak load, 2,133 customers), adding breakers at Innovation Station will reduce the exposure of potential outages caused by the Babbitt-Kirk 138 kV circuit.

Failure to move forward with the proposed project will result in the inability to serve the customer's load expectations and thereby jeopardize the customer's plans in the New Albany area (potentially 256 MW peak). The work to be constructed under this Project is only the work required to serve the initial 64 MW of load requested by the customer. As the customer moves forward towards the full 256 MW build out, any additional solutions required to serve the load will be taken through the PJM process and filed with OPSB as needed.

The need and solution for this supplemental project was presented and reviewed with stakeholders at the December 18th, 2020 and July 17th, 2021 PJM SRRTEP meetings. The project was subsequently assigned PJM supplemental number s2578.

## **B(3) Project Location**

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

The location of the Project in relation to existing and proposed transmission lines and substations is shown on **Figure 1**. The existing Conesville-Corridor 345 kV transmission line that crosses the customer's property will need to be rerouted for construction of the Project (in a separate case number).

## **B(4) Alternatives Considered**

**The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not**

**be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.**

The Project is located on property owned by the customer and based on existing facilities and the customer's development of the site, the proposed location is the most suitable for the Project. Other alternatives would require impacting neighboring properties, as opposed to being located entirely on customer-owned land. In addition, the proposed station location minimizes the cumulative transmission line route from the existing Babbitt-Kirk 138 kV line, limiting costs and impacts to ecological resources compared to other alternatives. The Project is located on undeveloped agricultural land. A wetland and stream delineation was conducted on the Project site, no streams will be impacted by the Project. Two wetland areas were identified along the site's western and southern boundaries, however, the Project has been designed to avoid impacts to these two wetland areas. The Project would require clearing of old-field and scrub-shrub vegetation to facilitate construction of the station. Relocating the station and associated lines away from the known customer site and off of customer-owned land would incur a greater impact to property owners, land use, and the potential for a greater impact to ecological features. Therefore, the Project represents the most suitable location and appropriate solution for meeting the Company's and the customer's needs.

#### **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 informs affected property owners and tenants about its projects through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements under Ohio Revised Code ("OAC") Section 4906-6-08(A)(1-6). Further, the Company will mail letters, via first class mail, to affected landowners, tenants, contiguous owners, and any other landowner the Company approached for an easement necessary for the construction, operation, or maintenance of the facility. The letter complies with all the requirements of O.A.C. Section 4906-6-08(B). The Company also maintains a website (<http://aeptransmission.com/ohio/>) which will provide the public access to an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library in each political subdivision affected by this proposed Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

#### **B(6) Construction Schedule**

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

Construction of the Project is anticipated to begin in April 2022, and the anticipated in-service date is March 2023.

#### **B(7) Area Map**

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



**Figure 1** depicts the proposed Project area with existing transmission lines on a topographic map of 1:24,000-scale (1 inch equals 2,000 feet), provided by the National Geographic Society. **Figure 2** shows the Project area on recent aerial photography, dated 2021, as provided by the Microsoft Corporation, at a scale of 1:2,400 (1-inch equals 200 feet).

To visit the Project site from Columbus, Ohio, take I-670 East to I-270 North. Take exit 33 towards Easton Way, then take exit 30 and merge onto OH-161 East for approximately 12.5 miles. Take exit 51 for County Highway 41/Mink Street. Turn left onto Mink Street and follow the road for 1.2 miles. Then turn left onto Jug Street and follow the road for 0.7 mile. The Project site will be on the left. The approximate address of the Project site is 12525 Jug Street Road NW, at latitude 40.09489°, longitude -82.72631°

### **B(8) Property Agreements**

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

All work activities are proposed on a parcel (EPIN#: 095-112074-00.000), which is currently owned by the customer. The Company currently has entered into a right of entry agreement with the customer and is in discussion with the customer to obtain an option for purchase in fee of the land on which the station will be situated.

### **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 Innovation Station is estimated to include the following:

- 1-Drop In Control Module
- 7-138kV Circuit Breakers

### **B(9)(b) Electric and Magnetic Fields**

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

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

### **B(9)(c) Project Cost**

**The estimated capital cost of the project.**

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$12,480,000, using a Class 4 estimate. Pursuant to the PJM OATT, the costs for

this Project will be recovered in the AEP Ohio Transmission Company's FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

## **B(10) Social and Economic Impacts**

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

### **B(10)(a) Land Use Characteristics**

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

An aerial photograph of the Project vicinity is provided as **Figure 2**. The Project location and vicinity have historically been primarily agricultural land and scrub-shrub vegetation. The Project is located in Jersey Township, Licking County. The Project vicinity is currently rural in nature, and is comprised primarily of agricultural land used for row crops, and lesser amounts of old fields, forested land, landscaped areas, and scattered residences. There are no parks, churches, cemeteries, wildlife management areas, or nature preserve lands within 1,000 feet of the Project.

### **B(10)(b) Agricultural Land Information**

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

The Licking County Auditor provided a list of parcels registered as Agricultural District Land on October 14, 2021. As a result, the proposed Innovation Station site is not located within lands identified as Agricultural District Lands.

### **B(10)(c) Archaeological and Cultural Resources**

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

Phase I Archaeological investigations and separate History/Architecture Investigations for the Project occurred in June 2021. One (1) new archaeological site and two (2) history/architecture resources were identified during the survey and recommend as not being eligible for listing in the National Register of Historic Places (NRHP). On July 14, 2021, the Ohio State Historic Preservation Office ("SHPO") concurred with the recommendations and stated that the Project will have no effect on historic properties and no further investigations or consultation with SHPO is necessary. Coordination with SHPO is provided as **Appendix C**.

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

**Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a**

**list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.**

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000005. 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 Storm Water Pollution Prevention Plan to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant conducted a stream and wetland delineation within the Project study area. Two wetlands and no streams were identified within the Project study area, additional details regarding the delineated features is provided in Section (10) (f) below. No wetlands or FEMA regulated floodplains or floodways will be disturbed by the Project. There are no other known local, state, or federal requirements that must be met prior to commencement of the proposed Project.

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

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

On October 5, 2021, coordination letters were sent to United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to threatened and endangered species.

Responses were received from the USFWS on October 7, 2021 and from the ODNR on October 21, 2021. According to a response letter received from the USFWS on October 7 2021, this Project is located within the range of the federally endangered Indiana bat and federally threatened northern long-eared bat. With regard to state threatened and endangered species that may occur within the Project vicinity, nine species were listed by ODNR. These species included: northern long-eared bat (*Myotis septentrioinalis*), Indiana bat (*Myotis sodalist*), little brown bat (*Myotis lucifugus*), tricolored bat (*Perimyotis subflavus*), fawnsfoot (*Truncilla donaciformis*), lake chubsucker (*Erimyzon suceta*), least bittern (*Ixobrychus exilis*), northern harrier (*Circus hudsonis*), and upland sandpiper (*Bartramia longicauda*).

Based on general observations during the ecological survey, no area within the Project survey area contains potential summer habitat for the Indiana bat or the northern long-eared bat. Scrub shrub habitat was scattered across the project survey area. If tree removal is unavoidable, it is recommended by ODNR and USFWS that removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31 to avoid adverse effects to Indiana bats and northern long-eared bats during the brood-rearing months. The Company does not anticipate the need to clear trees for the Project.

No impacts are anticipated to the fawnsfoot or lake chubsucker as no in-water work is proposed as part of the Project. Furthermore, general observations during the ecological survey indicate that the Project site does not provide suitable habitat for the least bittern, northern harrier, or upland sandpiper, and no time of year restrictions are recommended for these species. A copy of the agency correspondence is provided in **Appendix C**. Additional information regarding habitat assessments within the Project area is provided within the Wetland Delineation and Stream Assessment Report found in **Appendix D**.

#### **B(10)(f) Areas of Ecological Concern**

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

The October 2021 USFWS coordination indicated there were no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the Project. Additionally, the October 2021 ODNR response indicated that according to the Ohio Natural Heritage Database, no known unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas are located within the Project area.

A review of the National Conservation Easement Database and the USACE Regulatory In-lieu Fee and Bank Information Tracking System did not identify mapped easements or mitigation sites in the Project area.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project area (specifically, map number **39089C0280H**). Based on this mapping, no mapped FEMA floodplains are located in the Project area. Therefore, no floodplain permit will be required for this Project.

The Company's consultant prepared a Wetland Delineation and Stream Assessment Report, which is provided in **Appendix D**. The survey of the Project area identified two wetlands within the customer parcel. Both wetlands are classified as palustrine emergent (PEM) wetlands and are not located within the proposed designs of the Innovation Station. No streams were identified within the customer's parcel.

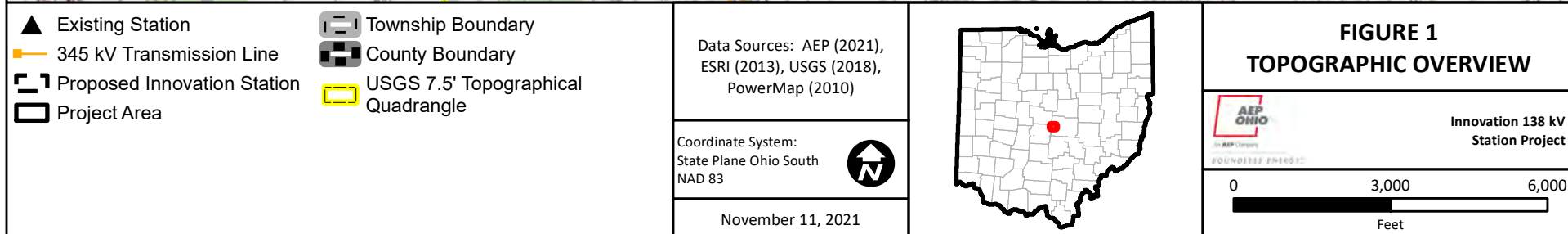
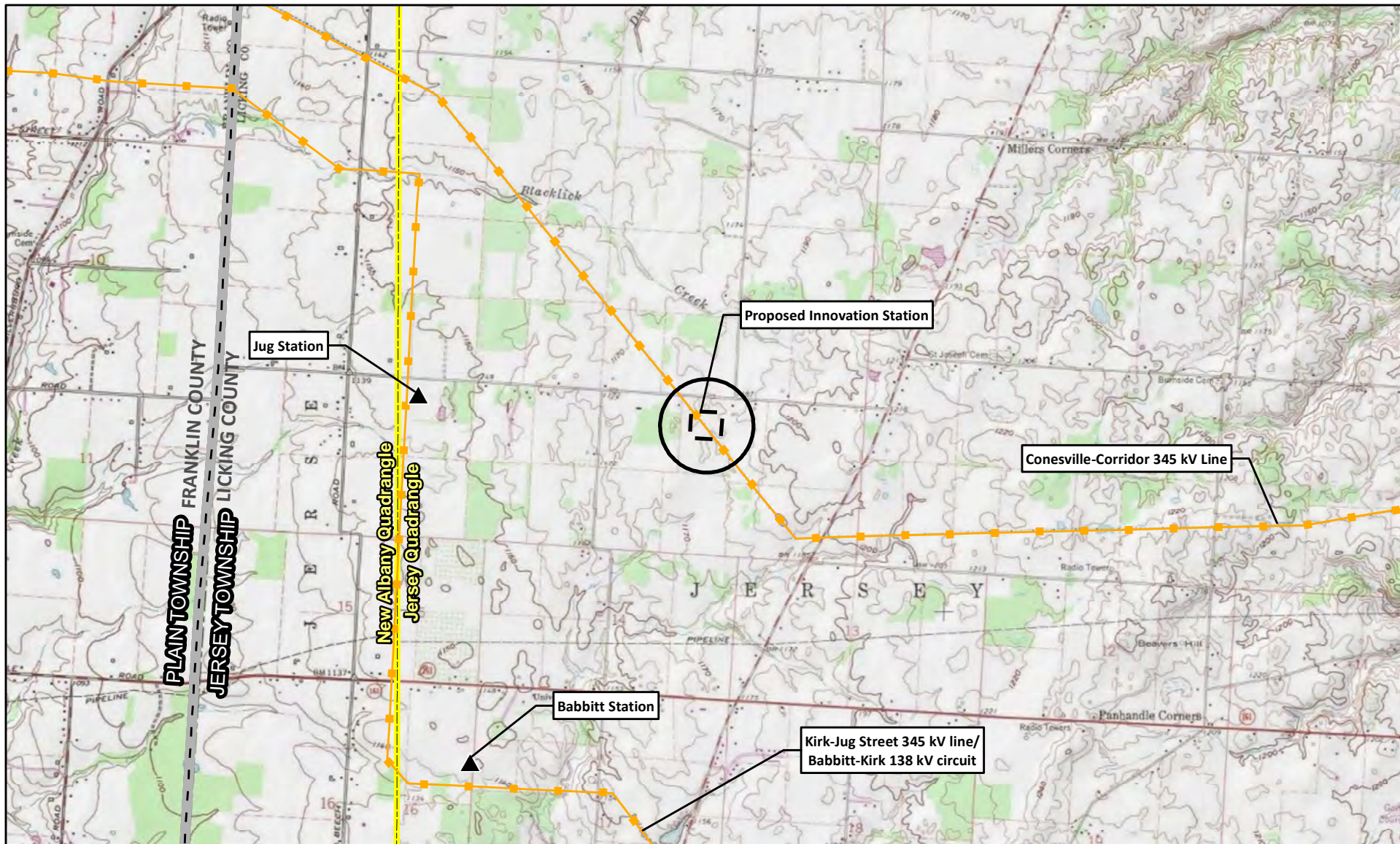
#### **B(10)(g) Unusual Conditions**

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

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




## **APPENDIX A: PROJECT MAPS**









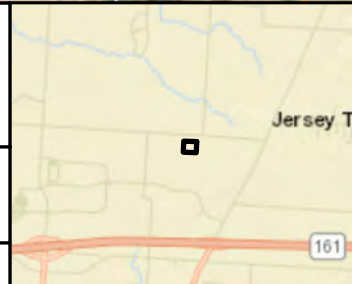
-  Parcel Boundary
-  Proposed Innovation Station
-  345 kV Transmission Line

Data Sources: AEP (2021),  
ESRI (2013), USGS (2018),  
PowerMap (2010)

Coordinate System:  
State Plane Ohio South  
NAD 83

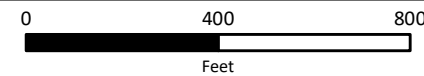


November 11, 2021



**FIGURE 2  
AERIAL MAP**

Innovation 138 kV  
Station Project



## **APPENDIX B: PJM SOLUTION**



## AEP Transmission Zone M-3 Process Licking County, OH

**Need Number:** AEP-2020-OH048

**Process Stage:** Solutions Meeting 07/16/2021

**Previously Presented:** Needs Meeting 12/18/2020

**Supplemental Project Driver:**

Customer Service

**Specific Assumption Reference:**

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 7)

**Problem Statement:**

Customer Service:

- A customer has requested transmission service at a site just south of the existing Conesville – Corridor 345 kV circuit in New Albany, OH.
- The customer has indicated an initial peak demand of 64 MW with a potential capacity of up to 256 MW at the site.

**Model:** 2025 RTEP



**Need Number:** AEP-2020-OH048

**Process Stage:** Solutions Meeting 07/16/2021

**Proposed Solution:**

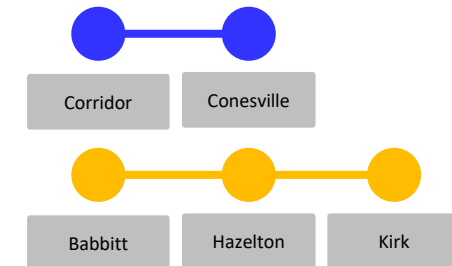
- **Innovation 138 kV Station:** Construct a greenfield 138kV breaker and half station that includes seven 138kV 3000A 63kA circuit breakers and four total line exits to serve the requested load. **Estimated Cost: \$11.611M**
- **Innovation Extension 138kV:** Tap the existing Babbitt-Kirk 138kV circuit creating the Babbitt-Innovation and Kirk-Innovation 138kV circuits and construct approximately 2.2 miles of double circuit line to serve the new station. Extend the telecom fiber into Innovation station for relaying/communication. **Estimated Cost: \$ 13.334M**
- **Conesville-Corridor 345kV:** Relocate a portion of the existing Conesville-Corridor 345kV single circuit line to accommodate the install of Innovation Station. Approximately 0.40 miles of line to be rerouted around station site. **Estimated Cost: \$2.478M**
- **Babbitt 138 kV Station:** Update remote end relay settings and telecom electronics. **Estimated Cost: \$ 0.074M**
- **Kirk 138 kV Station:** Update remote end relay settings and telecom electronics. **Estimated Cost: \$0.062M**

**Total Estimated Cost: \$ 27.6M**

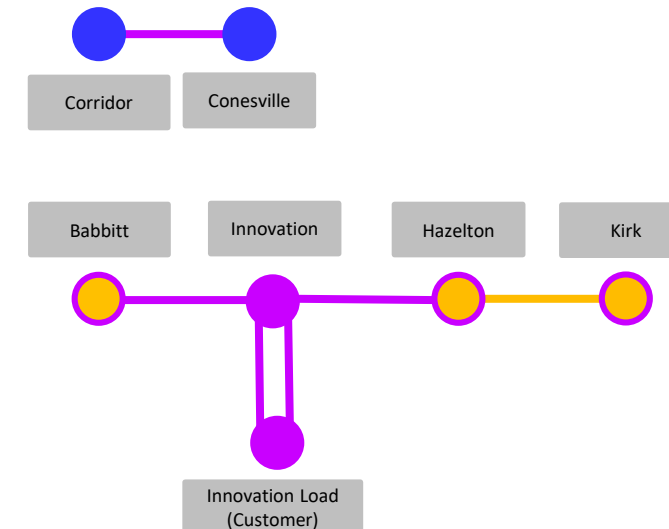
## Bubble Diagram

**Existing:**

Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	



**Proposed:**



## Alternatives Considered:

Construct approximately 2 miles of new 138 kV line from Babbitt station to the site. This option was not chosen because it would require additional station work at Babbitt to connect the new line exits. Constructing and operating Innovation station initially as a ring laid out as a breaker and a half configuration was considered, but not chosen after taking into account the customer's anticipated future load requirements. There would have been approximately \$1M in incremental costs to convert the station from ring to breaker and a half as part of the second build out.








**Projected In-Service:** 3/31/2023

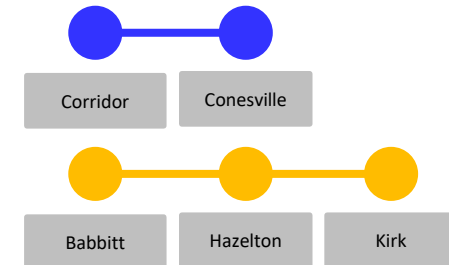
**Project Status:** Scoping

**Model:** RTEP 2025

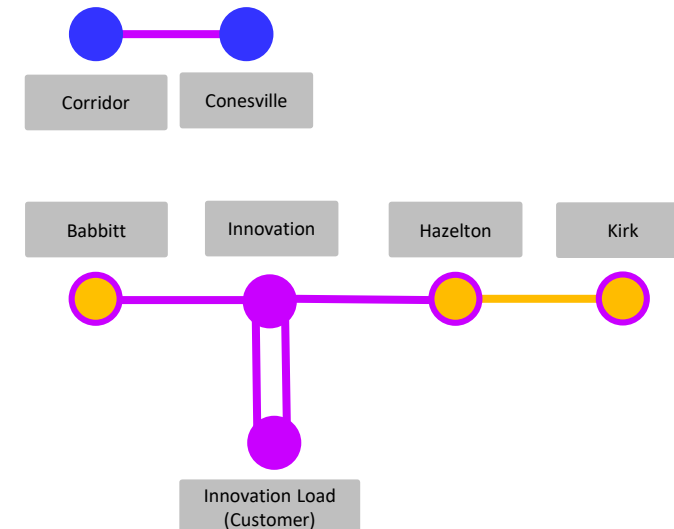
## Bubble Diagram

**Existing:**

Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	



**Proposed:**



## **APPENDIX C: AGENCY CORRESPONDENCE**



# Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

## Office of Real Estate

*John Kessler, Chief*

2045 Morse Road – Bldg. E-2

Columbus, OH 43229

Phone: (614) 265-6621

Fax: (614) 267-4764

October 21, 2021

Jake Lubbers  
AECOM  
525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

**Re:** 21-0913; AEP Innovation Station Project

**Project:** The proposed project involves the construction of the Innovation Substation.

**Location:** The proposed project is located in Jersey Township, Licking County, Ohio.

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

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened 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 Erin Hazelton at [Erin.hazelton@dnr.ohio.gov](mailto:Erin.hazelton@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 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 Erin Hazelton 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 fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. 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 this species.

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

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the 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.

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

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, 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. Your local floodplain administrator contact information can be found at the website below.

[http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\\_8\\_16.pdf](http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf)

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

Mike Pettegrew  
Environmental Services Administrator (Acting)





In reply, refer to  
2021-LIC-51787

July 14, 2021

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

**RE: Innovation Station Project, Jersey Township, Licking County, Ohio**

Dear Mr. Weller:

This letter is in response to the correspondence received on June 15, 2021 regarding the proposed Innovation Station Project, Jersey Township, Licking County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Management Investigations for the 17.2 ha (42.5 ac) Innovation Station Project in Jersey Township, Licking County, Ohio* by Weller & Associates, Inc. (2021).

A literature review, visual inspection, surface collection, shovel probe and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area. One (1) new archaeological site was identified during survey. Ohio Archaeological Inventory (OAI)# 33LI2721 is recommended not eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with this recommendation and no additional archeological investigation is needed.

A literature review and field survey were completed as part of the investigations. Two (2) history/architecture resource fifty years of age or older were identified within the Area of Potential Effects (APE) during the field survey. It is Weller's recommendation that these properties are not eligible for inclusion in the NRHP. Our office agrees with Weller's recommendations of eligibility.

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

Sincerely,

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

Krista Horrocks, Project Reviews Manager  
Resource Protection and Review

RPR Serial No: 1088972



## Lubbers, Jake

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**From:** Ohio, FW3 <ohio@fws.gov>  
**Sent:** Thursday, October 7, 2021 3:27 PM  
**To:** Lubbers, Jake  
**Cc:** nathan.reardon@dnr.state.oh.us; Parsons, Kate; ajtoohey@aep.com; Brewster, Heather  
**Subject:** [EXTERNAL] AEP Innovation Station Project in Licking County, Ohio



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



TAILS# 03E15000-2019-TA-1865

Dear Mr. Lubbers,

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  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  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  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  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 <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

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

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

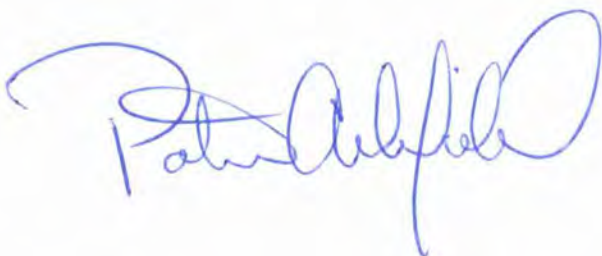
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio ([https://epa.ohio.gov/portals/47/facts/ohio\\_wetlands.pdf](https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf)). 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](mailto: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](mailto:ohio@fws.gov).

Sincerely,



Patrice M. Ashfield

Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW  
Kate Parsons, ODNR-DOW

**APPENDIX D: WETLAND DELINEATION AND STREAM ASSESSMENT  
REPORT**

# **INNOVATION 138KV STATION PROJECT LICKING COUNTY, OHIO**

## **WETLAND DELINEATION AND STREAM ASSESSMENT REPORT**

*Prepared for:*

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



*Prepared by:*



525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

Project #: 60660544

October 2021

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## TABLE OF CONTENTS

1.0	METHODOLOGY .....	1
1.1	WETLAND DELINEATION .....	1
1.1.1	SOILS .....	2
1.1.2	HYDROLOGY .....	2
1.1.3	VEGETATION .....	3
1.1.4	WETLAND CLASSIFICATIONS .....	3
1.1.5	OHIO RAPID ASSESSMENT METHOD v. 5.0 .....	4
1.2	STREAM ASSESSMENT .....	5
1.2.1	OEPA QUALITATIVE HABITAT EVALUATION INDEX .....	5
1.2.2	OEPA PRIMARY HEADWATER HABITAT EVALUATION INDEX .....	6
1.2.3	OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY .....	7
1.3	UPLAND DRAINAGE FEATURE .....	8
1.4	RARE, THREATENED, AND ENDANGERED SPECIES .....	8
2.0	RESULTS .....	9
2.1	WETLAND DELINEATION .....	9
2.1.1	PRELIMINARY SOILS EVALUATION .....	9
2.1.2	NATIONAL WETLAND INVENTORY MAP REVIEW .....	9
2.1.3	DELINEATED WETLANDS .....	10
2.1.4	DELINEATED WETLANDS ASSESSMENT .....	10
2.2	STREAM DELINEATION .....	10
2.2.1	OEPA STREAM ELIGIBILITY .....	11
2.3	PONDS .....	11
2.4	VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA .....	11
2.5	RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION .....	12
3.0	SUMMARY .....	20
4.0	REFERENCES .....	21

## TABLES (in-text)

TABLE 1: SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE INNOVATION SUBSTATION 138KV PROJECT SURVEY AREA.....	10
TABLE 2: SUMMARY OF WATERSHED 401 WQC ELIGIBILITY WITHIN THE INNOVATION SUBSTATION 138KV PROJECT SURVEY AREA.....	12
TABLE 3: VEGETATIVE COMMUNITIES WITHIN THE INNOVATION SUBSTATION 138KV PROJECT SURVEY AREA .....	12
TABLE 4: ODNR AND USFWS LISTED SPECIES WITHIN THE INNOVATION SUBSTATION 138KV PROJECT SURVEY AREA.....	14

## FIGURES

### Number

FIGURE 1	Overview Map
FIGURE 2	Soil Map Unit and National Wetland Inventory Maps
FIGURE 3	Wetland Delineation and Stream Assessment Maps
FIGURE 4	Stream Eligibility Map
FIGURE 5	Vegetation Communities Maps

## APPENDICES

### Number

APPENDIX A	Project Wetland Table
APPENDIX B	U.S Army Corps of Engineers Wetland Data Forms / OEPA Wetland ORAM Forms / Delineated Features Photographs (combined per wetland and shown in numerical order)
APPENDIX C	Habitat and Other Identified Features Photographs
APPENDIX D	Agency Correspondence

## **INTRODUCTION**

American Electric Power Ohio Transmission Company (AEP Ohio Transco) proposes to construct a new substation to be called Innovation Station in Licking County, Ohio. The Innovation Substation 138kV Project (Project) will be constructed within an approximately 42.5-acre section of property (Project survey area) located south of Jug Street Rd. NW in Jersey Township, Licking County, Ohio. The proposed Project location is illustrated on Figure 1.

On June 3, 2021, AECOM conducted a field survey to assess the presence of wetlands and other “waters of the United States (WOTUS)” within the Project survey area. Secondly, land uses were recorded to classify and characterize potential habitat for rare, threatened, and endangered species. This report will be used to assist AEP Ohio Transco’s efforts to identify potential WOTUS and rare, threatened and endangered species habitat present within the Project survey area to avoid and/or minimize impacts to those resources during construction activities.

### **1.0 METHODOLOGY**

Prior to conducting field surveys, digital U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), and USGS 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

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

#### **1.1 WETLAND DELINEATION**

The Project survey area was evaluated according to the procedures outlined in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (*1987 Manual*) (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (*Midwest Regional Supplement*) (USACE, 2010). The *1987 Manual* and *Regional Supplement* define wetlands as areas that have positive evidence of three environmental parameters: hydric soils, wetland hydrology, and hydrophytic vegetation. Wetland boundaries are placed where one or more of these parameters give way



to upland characteristics. The *Midwest Regional Supplement* was developed to address regional wetland characteristics and improve the accuracy and efficiency of wetland delineation procedures.

During field survey activities AECOM utilized the routine on-site delineation method described in the *1987 Manual* and *Midwest Regional Supplement* that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. The methodology used to examine each parameter is described in the following sections.

### **1.1.1 SOILS**

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (*Midwest Regional Supplement*). The presence of hydric soil indicators is positive evidence of the hydric soil parameter. Soils were examined for hydric soil characteristics using a spade shovel to extract soil samples. A *Munsell Soil Color Chart* (Kollmorgen Corporation, 2010) was used to identify the hue, value, and chroma of the matrix and mottles of the soils which describes the soil profile. The completed soil profile was used to determine which, if any, hydric soil indicators were met as detailed in the *Midwest Regional Supplement*.

### **1.1.2 HYDROLOGY**

The *1987 Manual* requires that an area be inundated or saturated to the surface for an absolute minimum of five percent of the growing season (areas saturated between five percent and 12.5 percent of the growing season may or may not be wetlands, while areas saturated over five percent and 12.5 percent of the growing season fulfill the hydrology requirements for wetlands). The *Midwest Regional Supplement* states that the growing season dates are determined through onsite observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature (12-inch depth) is 41-degree Fahrenheit (°F) or higher as an indicator of soil microbial activity. Therefore, the beginning of the growing season in a given year is indicated by whichever condition occurs earlier, and the end of the growing season by whichever persists later.

The *Midwest Regional Supplement* also states that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (5 of 10 years, or 50 percent probability of recurrence) date of the last and first 28° F air temperature in the spring and fall, respectively. The National Weather Service WETS data obtained from the NRCS National Water and Climate Center reveals for Licking County that in an average year, this period lasts from April 13 to October 28, or 197 days. Thus, for the Project location, five percent of the growing season equates to approximately ten days.

The soils and ground surface were examined for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and the *Midwest Regional*

*Supplement.* Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits and oxidized rhizospheres on living roots; and secondary indicators such as drainage patterns, geomorphic position, micro-topographic relief, and a positive Facultative (FAC)-neutral test (USACE, 2010).

### **1.1.3 VEGETATION**

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) was assigned to each plant species based on the U.S. Army Corps of Engineers *2018 National Wetland Plant List: Midwest Region* (U.S. Army Corps of Engineers, 2018), which encompasses the Project survey area. An area is determined to have a positive indicator for hydrophytic vegetation when, under normal circumstances, more than 50 percent of the composition of the dominant species are OBL, FACW and/or FAC species. Vegetation of an area was determined to be non-hydrophytic when 50 percent or more of the composition of the dominant species was FACU and/or UPL species. In lieu of the dominance test, the prevalence test can be used as an indicator of hydrophytic vegetation. Recent USACE guidance indicates that to the extent possible, the hydrophytic vegetation decision should be based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year (USACE, 2010).

### **1.1.4 WETLAND CLASSIFICATIONS**

Wetlands identified in the field were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al*, 1979). There are five main classes of wetlands and deepwater habitats, including: marine, estuarine, riverine, lacustrine, and palustrine. Marine and estuarine wetlands are not found in the interior of the U.S. while riverine wetlands are typically delineated as streams (when there is an absence of vegetation within the channel). Lacustrine systems typically include dammed river channels and non-vegetated open water exceeding 20 acres. Palustrine systems, which includes non-tidal wetlands dominated by trees, shrubs, or emergent vegetation, are the primary wetland types which may be identified within the Project survey area. The possible palustrine wetland classification types are as follows:

**PEM** – Palustrine emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

**PFO** – Palustrine forested wetlands are characterized by woody vegetation that is three inches or more diameter at breast height (DBH), regardless of total height. These wetlands generally include an overstory of broad-leaved and needle-leaved trees, an understory of young saplings and shrubs, and an herbaceous layer.

**PSS** – Palustrine scrub/shrub wetlands are characterized by woody vegetation that is less than three inches DBH, and greater than 3.28 feet tall. The woody angiosperms (i.e., small trees or shrubs) in this broad-leaved deciduous community have relatively wide, flat leaves that are shed annually during the cold or dry season.

**PUB** – Palustrine unconsolidated bottom wetlands includes all open water wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones, and a vegetative cover less than 30 percent. Palustrine open water wetlands are characterized by the lack of large stable surfaces for plant and animal attachment.

For some wetlands, multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation covers 30 percent or more of the substrate). Where multiple Cowardin classifications are present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation is listed.

#### **1.1.5 OHIO RAPID ASSESSMENT METHOD v. 5.0**

The Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM) was developed to determine the relative ecological quality and level of disturbance of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under the ORAM resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between "Categories 1 and 2" from 30 to 34.9 and between "Categories 2 and 3" from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower Category (Mack, 2001).

**Category 1 Wetlands** – Category 1 wetlands support minimal wildlife habitat, hydrological and recreational functions, and do not provide for or contain critical habitats for threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics: low species diversity, no significant habitat for wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or is of low ecological functionality.

**Category 2 Wetlands** – support "moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for,

rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been degraded to Category 2 status.

**Category 3 Wetlands** – have "...superior habitat, or superior hydrological or recreational functions." They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. A wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit "superior" hydrologic functions (e.g., flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

## 1.2 STREAM ASSESSMENT

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and "designated uses" to all waters of the U.S. upstream to the highest reaches of the tributary streams. In addition, the Clean Water Act requires knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The USACE defines OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE, 2005).

Stream assessments were conducted using the methods described in the OEPA's *Methods for Assessing Habitat in Flowing Waters: Using OEPA's Qualitative Habitat Evaluation Index* (Rankin, 2006) and in the OEPA's *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams assessed in the Project survey area were reviewed for existing OEPA Aquatic Life Use Designations per OEPA's Water Quality Standards (OAC Chapter 3745-1). Those without an existing use designation were assigned a provisional aquatic life use designation based upon habitat assessment results (Rankin, 1989).

### 1.2.1 OEPA QUALITATIVE HABITAT EVALUATION INDEX

The Qualitative Habitat Evaluation Index (QHEI) is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). The quantitative measure of habitat used to

calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive quantitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

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

### 1.2.2 OEPA PRIMARY HEADWATER HABITAT EVALUATION INDEX

Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless, headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and landscape position (Fritz, et al., 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The Headwater Habitat Evaluation Index (HHEI) is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater (PHW) streams. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use the HHEI, the stream must have a "defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 square mile, and a maximum depth of water pools equal to or less than 15.75 inches" (OEPA, 2018). Pool depth and water volume of headwater streams are normally insufficient to fully support the biological criteria associated with other sub-categories of aquatic life described in OAC 3745-1-07.

Headwater streams are scored based on channel substrate composition, bankfull width, and maximum pool depth. Assessment results in a score (0 to 100) that is converted to a specific PHW stream type. Streams that are scored from 0 to 29 are typically identified as "Class I PHW Streams", 30 to 70 are "Class II PHW Streams", and 71 to 100 are "Class III Streams". Technically, a stream can score relatively high, but actually belong in a lower class, and vice-versa. According to the OEPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a

biological assessment can be used to determine appropriate PHW stream type using the Level 2 or Level 3 PHW protocol (OEPA, 2020). Evidence of anthropogenic alterations to the natural channel will result in a "Modified" qualifier for the stream type.

**Class I PHW Streams:** are those that have "have limited or no aquatic life potential, except seasonally when flowing water is present for short time periods following precipitation or snow melt" (OEPA, 2020). These waterways typically exhibit no significant habitat for aquatic fauna, no significant wildlife use, and limited or no potential to achieve higher PHW aquatic biological functions.

**Class II PHW Streams:** are equivalent to "warmwater habitat" streams and exhibit intermittent or perennial flow. This stream class has a "moderately diverse community of warm water adapted native fauna either present seasonally or year-round" (OEPA, 2020). The species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering and/or temperature facultative species.

**Class III PHW Streams:** have prevailing flow and temperature conditions influenced by groundwater, with diverse communities of cold water adapted native fauna present year-round. Class III PHW streams may be further divided into two sub-types based upon a detailed and complete evaluation of the aquatic faunal community, though that level of assessment is outside the scope of the data quality objectives for the proposed project.

### 1.2.3 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

The OEPA has designated each watershed in the state on the basis of whether it may be *ineligible* for coverage under Ohio EPA's 401 Water Quality Certification for Nationwide Permits. Mapping provided by OEPA illustrate the eligibility of streams in the area for a nationwide 401 permit. Three categories are identified: eligible, ineligible, and possibly eligible with additional field screening required. Impacts to streams within each watershed would then have eligibility for 401 Water Quality Certification determined by the watershed category. The three categories are defined as:

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

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

**Possibly Eligible:** Additional field screening procedures are required for streams in the watershed to determine appropriate eligibility. Projects affecting undesignated streams within those HUC12 watersheds

that do not directly but eventually drain into high quality waters, might be eligible for coverage under Ohio EPA's 401 Water Quality Certification for Nationwide Permits depending on the results of a field screening assessment. The procedures for determining individual stream eligibility in this scenario are specified in Appendix D "Stream Eligibility Determination Process" of the OEPA Ohio State Water Quality Certification of the 2017 Nationwide Permit Reauthorization.

### 1.3 UPLAND DRAINAGE FEATURE

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OWHM (USACE, 2005), and are equivalent to a swale or an erosional feature as described by the USACE: "generally shallow features in the landscape that may convey water across upland areas during and following storm events. Swales usually occur on nearly flat slopes and typically have grass or other low-lying vegetation throughout the swale" (USACE, 2007).

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

In addition, UDF's (including swales, ditches, and other erosional features) are generally not "waters of the U.S." except in certain circumstances, such as relocated streams.

### 1.4 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a rare, threatened, and endangered species review and general field habitat surveys within the Project survey area. The first phase of the survey involved a review of online lists of federally and state-listed species. In addition to the review of available lists, AECOM submitted a request to Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section as well as the United States Fish and Wildlife Service (USFWS) in October 2020 [soliciting comments on the proposed Project](#).

Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit. AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of the second phase of assessing rare, threatened, and endangered species. Land uses within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetative cover as observed during the field surveys.



## 2.0 RESULTS

In June 2021, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project survey area, AECOM delineated two (2) wetlands, no streams and no ponds. The delineated features are discussed in detail in the following sections.

### 2.1 WETLAND DELINEATION

#### 2.1.1 PRELIMINARY SOILS EVALUATION

Soils in delineated wetlands were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Survey of Licking County, Ohio (USDA NRCS, 2018), three (3) soil series are mapped within the Project survey area, inclusive of five (5) mapped soil units. All four (4) soil map units are identified as hydric (USDA NRCS, 2019). Table 1 provides a detailed overview of all soil series and soil map units present within the Project survey area. Soil map units located in the Project survey area and vicinity are shown on Figure 2.

**TABLE 1: SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Drainage Class
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	End moraines, ground moraines	Yes	Very Poorly Drained
	BeB	Bennington silt loam, 2 to 6 percent slopes	End moraines, ground moraines	Yes	Very Poorly Drained
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Ground moraines, end moraines, drainage ways	Yes	Poorly Drained
	Cen1C2	Centerburg silt loam, 6 to 12 percent slopes, eroded	Ground moraines, end moraines, drainage ways	No	Somewhat Poorly Drained
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Depressions, drainageways	Yes	Poorly Drained

USDA, NRCS. 2019 Web Soil Survey. Available online at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

USDA, NRCS. Accessed September 2021. National Hydric Soils List by State. Available online at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>

#### 2.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

National Wetland Inventory wetlands are areas of potential wetland that have been identified from USFWS aerial photograph interpretation which have typically not been field verified. Forested and heavy scrub/shrub wetlands are often not shown on NWI maps as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. In addition, small wetlands are typically not identified due to the scale of the aerial photography. The USFWS website states that the NWI maps are not intended or designed for jurisdictional wetland identification or location. As a result, NWI maps do not show all the wetlands found in a particular area nor do they necessarily provide accurate wetland boundaries. NWI maps are useful for providing indications of potential wetland areas, which are often



supported by soil mapping and hydrologic predictions, based upon topographical analysis using USGS topographic maps.

According to NWI data covering the Project location, the Project survey area does not contain any mapped NWI wetlands. The nearest NWI wetland to the Project survey area is a forested wetland with code PFO1C approximately 88 feet south of the southwest corner of the Project survey area (Figure 2).

### **2.1.3 DELINEATED WETLANDS**

During the field survey, AECOM identified two (2) PEM wetlands within the Project survey area. A summary of these delineated wetlands is listed in Appendix A. Of the two (2) wetlands, both have been preliminarily identified as being WOTUS due to their apparent hydrologic connection to another WOTUS outside the Project survey area. Therefore, Wetland 1 and Wetland 2 are assumed to be “adjacent”. Final jurisdictional status can only be determined by the USACE.

The locations and approximate extent of the wetlands identified within the Project survey area are shown on Figure 3. Completed USACE and ORAM wetland delineation forms and photographs of the wetlands are provided in Appendix B.

### **2.1.4 DELINEATED WETLANDS ASSESSMENT**

Within the Project survey area, both of the delineated wetlands were identified as Category 1 wetlands with ORAM scores of 23.5 (Wetland 01) and 27.5 (Wetland 02). Wetland assessment results (ORAM score) are provided in the Project Wetland Table in Appendix A.

#### ***Category 1 Wetlands***

The two Category 1 wetlands delineated within the Project survey area both consist of PEM habitat. The Category 1 wetlands generally exhibited narrow to wide, low to high intensive surrounding land uses (e.g., residential, urban, row cropping), nearly absent to moderate percentage of invasive species, and recovering hydrology from previous manipulation due to tile installation/blowout, stormwater input, ditches, and filling and grading. The wetlands also generally exhibited recent to recovered habitat from previous manipulation due to mowing, clearcutting, dredging and farming.

## **2.2 STREAM DELINEATION**

During the field survey, no streams were identified within the Project survey area.

### 2.2.1 OEPA STREAM ELIGIBILITY

OEPA stream eligibility for 401 Water Quality Certification mapping was reviewed for the Project survey area. The Project Survey Area is encompassed by two watersheds designated by 401 WQC eligibility, as listed in Table 2. The sub-watershed is designated as Eligible. OEPA stream eligibility mapping for the Project vicinity is provided on Figure 4.

**TABLE 2: SUMMARY OF WATERSHED 401 WQC ELIGIBILITY WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

HUC-12	Watershed	401 WQC Eligibility	Number of Streams Delineated
050600011503	Headwaters Blacklick Creek	Possibly Eligible	0
050400060402	Headwaters South Fork Licking River	Eligible	0
<b>Total</b>			<b>0</b>

### 2.3 PONDS

No ponds were observed within the Project survey area.

### 2.4 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys in June 2021. Three vegetative communities, as described below in Table 3, are present within the Project survey area. Portions of the Project survey area mainly include agricultural land, with smaller areas consisting of wetland areas and shrub lands. Habitat descriptions applicable to the Project as well as details on the expected impacts of construction are provided below. Photographs of vegetated land cover of the Project are displayed in Appendix C and can be seen visually from aerial photography provided on Figure 5.

**TABLE 3: VEGETATIVE COMMUNITIES WITHIN THE INNOVATION SUBSTATION 138 kV PROJECT SURVEY AREA**

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Old Field	Herbaceous cover exhibiting the earliest stages of recolonization by plants following disturbance, typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed. Old field areas identified were infrequently maintained areas of grasses and forbs with occasional shrubs.	34.3	80.7%
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the removed canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with a few woody species, to a community dominated by forest herbs and woody species.	7.6	17.9%

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Streams/Wetlands	Palustrine emergent wetlands were observed within the Project survey area, interspersed through the row crops.	0.6	1.4%
<b>Totals:</b>		<b>42.5</b>	<b>100%</b>

## 2.5 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

### *Protected Species Agency Consultation –*

AECOM conducted a rare, threatened, and endangered species review for areas within the Project survey area. A summary of agency coordination is provided below. Correspondence letters from the USFWS and ODNR for the proposed Project are included as Appendix D. Table 4 provides a summary of the rare, threatened, and endangered species as well as potential habitat identified during the site visit.

**TABLE 4**  
**ODNR AND USFWS LISTED SPECIES WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Agency Comments	Potential Impacts and Avoidance Dates
<b>Mammals</b>						
Indiana Bat ( <i>Myotis sodalis</i> )	Endangered	Endangered	Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory ( <i>Carya</i> spp.), oak ( <i>Quercus</i> spp.), ash ( <i>Fraxinus</i> spp.), birch ( <i>Betula</i> spp.), and elm ( <i>Ulmus</i> spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low-density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.	No- No wooded areas were identified within the Project survey area.	USFWS and ODNR commented that if no caves or abandoned mines are present and trees >3 inches dbh cannot be avoided, USFWS and ODNR recommend that any cutting of trees ≥3 inches DBH occur between October 1 and March 31. ODNR similarly requested that suitable Indiana bat habitat should be conserved or cut between October 1 and March 31.	No potential suitable habitat (woodlands) observed during the field survey, and therefore, no impacts to this species or its habitat are anticipated.

**TABLE 4  
ODNR AND USFWS LISTED SPECIES WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Agency Comments	Potential Impacts and Avoidance Dates
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Threatened	Threatened	Winter hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory ( <i>Carya</i> spp.), oak ( <i>Quercus</i> spp.), ash ( <i>Fraxinus</i> spp.), birch ( <i>Betula</i> spp.), and elm ( <i>Ulmus</i> spp.) have been found to be utilized by northern long-eared bats. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low-density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey. Northern long-eared bats have also been found, albeit rarely, roosting in structures like barns and sheds.	No - No wooded areas were identified within the Project survey area.	USFWS commented that if no caves or abandoned mines are present and trees >3 inches dbh cannot be avoided, USFWS recommend that any cutting of trees ≥3 inches DBH occur between October 1 and March 31. ODNR commented that 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.	No potential suitable habitat (woodlands), barns, and/or sheds were observed during the field survey, and therefore, no impacts to this species or its habitat are anticipated. According the ODNR Division of Mineral Resources data, no mines or caves are mapped in the Project Survey Area.

**TABLE 4  
ODNR AND USFWS LISTED SPECIES WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Agency Comments	Potential Impacts and Avoidance Dates
Little brown bat ( <i>Myotis lucifugus</i> )	Endangered	NA	The little brown bat shares similar habitat requirements as other <i>Myotis</i> species including the Indiana bat and northern long-eared bat. This species may roost in trees, attics, or other man-made structures during the summer season. In winter, they may hibernate in caves, mines, or man-made structures with appropriate temperature regimes.	No - No wooded areas were identified within the Project survey area. Additionally, during the field survey, no caves or mines were identified in the Project Survey Area.	ODNR 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 if possible.	No potential suitable habitat (woodlands) observed during the field survey, and therefore, no impacts to this species or their habitat are anticipated. According the ODNR Division of Mineral Resources data, no mines or caves are mapped in the Project Survey Area.
Tricolored bat ( <i>Perimyotis subflavus</i> )	Endangered	NA	The tricolored bat primarily roosts in trees during the summer months. During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	No - No wooded areas were identified within the Project survey area. During the field survey, no caves or mines were identified in the Project Survey Area	ODNR 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 if possible.	No potential suitable habitat (woodlands), barns, and/or sheds observed during the field survey, and therefore, no impacts to this species or their habitat are anticipated. According the ODNR Division of Mineral Resources data, no mines or caves are mapped in the Project Survey Area.
<b>Mussels</b>						
Fawnsfoot ( <i>Truncilla donaciformis</i> )	Threatened	None	This species can be found in medium to large rivers at depths between less than three feet to 18 feet. It prefers sand or mud substrates. It is also adapted to lakes and embankments.	No	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated..

**TABLE 4  
ODNR AND USFWS LISTED SPECIES WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Agency Comments	Potential Impacts and Avoidance Dates
<b>Fish</b>						
Lake chubsucker ( <i>Erimyzon sucetta</i> )	Threatened	None	This species is found mainly in lakes, ponds, swamps, and streams.	No	The DOW recommends no in water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species	No potentially suitable habitat was observed within the Project survey area. No impacts to these fish species and their habitat are anticipated
<b>Birds</b>						
Upland Sandpiper ( <i>Bartramia longicauda</i> )	Endangered	None	This species utilizes dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and sometimes the grassy extensions of airports.	No-No potentially suitable habitat was observed for this species	If grassland habitat will be impacted, ODNR requests construction should be avoided in this habitat during the species' nesting period of April 15 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.	The Project Survey Area does contain former agricultural lands including old field and shrub/scrub areas. However, the vegetation within the Project Survey Area, such as goldenrod, ragweed, curly dock and shrub layers are too tall and/or advanced in succession to be suitable for Upland Sandpiper. Furthermore, adjacent land use consists of a large dog day care facility (Kennel Club) which may effectively disturb or deter sensitive species from using the area. Timing restrictions or other measures are not recommended for Upland Sandpiper.

**TABLE 4  
ODNR AND USFWS LISTED SPECIES WITHIN THE INNOVATION SUBSTATION 138kV PROJECT SURVEY AREA**

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Agency Comments	Potential Impacts and Avoidance Dates
Least bittern ( <i>Ixobrychus exilis</i> )	Threatened	None	Dense emergent wetlands with dense, tall growths of aquatic or semi aquatic vegetation interspersed with clumps of woody vegetation and open water.	No- No potentially suitable habitat was observed for this species	If this type of habitat will be impacted, construction should be avoided during the nesting period of May 1 through July 31.	Wetlands within the Project Survey Area do not provide the necessary mosaic of vegetative and water depth conditions for Least Bittern. Therefore, no timing restrictions or other measures are recommended for Least Bittern.
Northern harrier ( <i>Circus hudsonius</i> )	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	No-No potentially suitable habitat was observed for this species	If grassland habitat will be impacted, construction should be avoided during the nesting period of April 15 through July 31.	No potential suitable habitat was observed. The wetlands evaluated in the area are small wetlands which do not provide adequate protection from predators and the vegetation structure within the area is dominated by such species as ragweed, goldenrod, and curly dock and/or scrub/shrub. The adjacent land use consisting of a large dog day care operation also likely would deter Northern Harrier use of the Project Survey Area for breeding. Timing restrictions or other measures are not recommended for Northern Harrier.



**ODNR Coordination** – Coordination with the ODNR was initiated during the planning stages of the Project to obtain technical assistance regarding state listed species that may occur within the project vicinity. On October 21, 2021, the ODNR Office of Real Estate Environmental Review Section replied to an emailed request for records for protected species within an extended area around the Project site. The Ohio Natural Heritage Database (ONHD), Division of Wildlife (DOW), and the Division of Water Resources (DWR) provided comments regarding their respective regulatory authorities.

ONHD indicated that there are no records of state or federally protected plant or animal species within a one-mile radius of the Project Survey Area. Additionally, ONHD indicated that there are no records of any unique or protected areas within a one-mile radius of the Project Survey Area.

The DOW noted that the Project is within the range of the Indiana bat, the northern long-eared bat, the little brown bat and the tricolored bat. If suitable habitat occurs within the Project Survey Area and the trees must be cut, the DOW recommends cutting occur between October 1 to March 31. ODNR also recommended that a desktop habitat assessment, followed by a field assessment (if needed), be conducted to determine if there are potential hibernaculum(a) present within the Project Survey Area. According the ODNR Division of Mineral Resources data, no mines or caves are mapped in the Project Survey Area. No mines or caves were identified in the Project Survey Area during the field survey. No impacts to these bat species or their habitat is anticipated.

The DOW noted that the Project location is within the range of several state-protected aquatic species. The DOW stated that due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, that the Project was not likely to impact these species.

The DOW noted that the Project is within the range of the upland sandpiper, a state endangered bird. ODNR-DOW has also indicated that at least 19 acres of grassland habitat would be needed to be considered suitable habitat for the upland sandpiper. ODNR indicated that construction should be avoided during the upland sandpiper's nesting period (April 15 to July 31) to avoid impacts to grasslands, pasture and hayfield habitats. There are no documented occurrences of Upland Sandpiper within a one-mile radius of the Project Survey Area or vicinity and the habitat within the Project Survey Area is not suitable for breeding or nesting Upland Sandpiper. The Project Survey Area does contain former agricultural lands that have been retired and are in varied states of succession including old field and shrub/scrub areas. However, the vegetation within the Project Survey Area, such as goldenrod, ragweed, curly dock and shrub layers are too tall and/or advanced in succession to be suitable for Upland Sandpiper. Furthermore, adjacent land use consists of a large dog day care facility (Kennel Club) which may effectively disturb or deter sensitive species from using the area. Timing restrictions or other measures are not recommended for Upland Sandpiper.

The DOW noted that the Project is within the range of the northern harrier, a state endangered bird. There are no documented occurrences of Northern Harrier within a one-mile radius of the Project Survey Area or vicinity and the Project Survey Area is not suitable for breeding or nesting Northern Harrier. The wetlands evaluated in the area are small wetlands which do not provide adequate protection from predators and the vegetation structure within the area is dominated by such species as ragweed, goldenrod, and curly dock and/or scrub/shrub. The adjacent land use consisting of a large dog day care operation also likely would deter Northern Harrier use of the Project Survey Area for breeding. Timing restrictions or other measures are not recommended for Northern Harrier.

The DOW noted that the Project is within the range of the least bittern, a state endangered bird. There are no documented Least Bittern occurrences within a one-mile radius of the Project Survey Area or vicinity and habitat within the Project Survey Area is not suitable for Least Bittern. Wetlands within the Project Survey Area do not provide the necessary mosaic of vegetative and water depth conditions for Least Bittern. Therefore, no timing restrictions or other measures are recommended for Least Bittern.

**USFWS Coordination** – Coordination with the USFWS was initiated during the planning stages of the Project to obtain technical assistance regarding federally listed species that may occur within the Project vicinity. In a letter dated October 7, 2021, the USFWS indicated that the Project is located within the range of the federally endangered Indiana bat, and the federally threatened Northern long-eared bat. USFWS commented that if no caves or abandoned mines are present and trees >3 inches dbh cannot be avoided, USFWS recommend that any cutting of trees ≥3 inches DBH occur between October 1 and March 31 to avoid adverse effects to Indiana bats and Northern long-eared bats during the brood-rearing months.

### **3.0 SUMMARY**

The ecological survey of the Project survey area identified a total of two wetlands, no streams and no ponds. The wetlands identified in the Project survey area are both palustrine emergent (PEM) wetlands and were both identified as Category 1 wetlands. Both wetlands have provisionally been classified as adjacent wetlands and are presumed to be Waters of the U.S. (WOTUS) under the CWA 40 CFR 230.3(s). Final jurisdictional status can only be determined by the USACE.

ODNR and/or USFWS reported that the Project Survey Area is within the range of nine (9) state and/or federally listed threatened or endangered species, but the Natural Heritage Database has no records of any of those species at or within one-mile radius of the Project Survey Area.

Based on the lack of suitable habitat observed during the field survey, no impacts to the Indiana bat, northern long-eared bat, little brown bat and tricolored bat are anticipated.

There are no documented occurrences of upland sandpiper, northern harrier or least bittern within the Project Survey Area and vicinity. Based on the lack of suitable habitat observed during the field survey,

timing restrictions or other measures are not recommended avoidance of nesting habitat for the upland sandpiper, northern harrier or least bittern.

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

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

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

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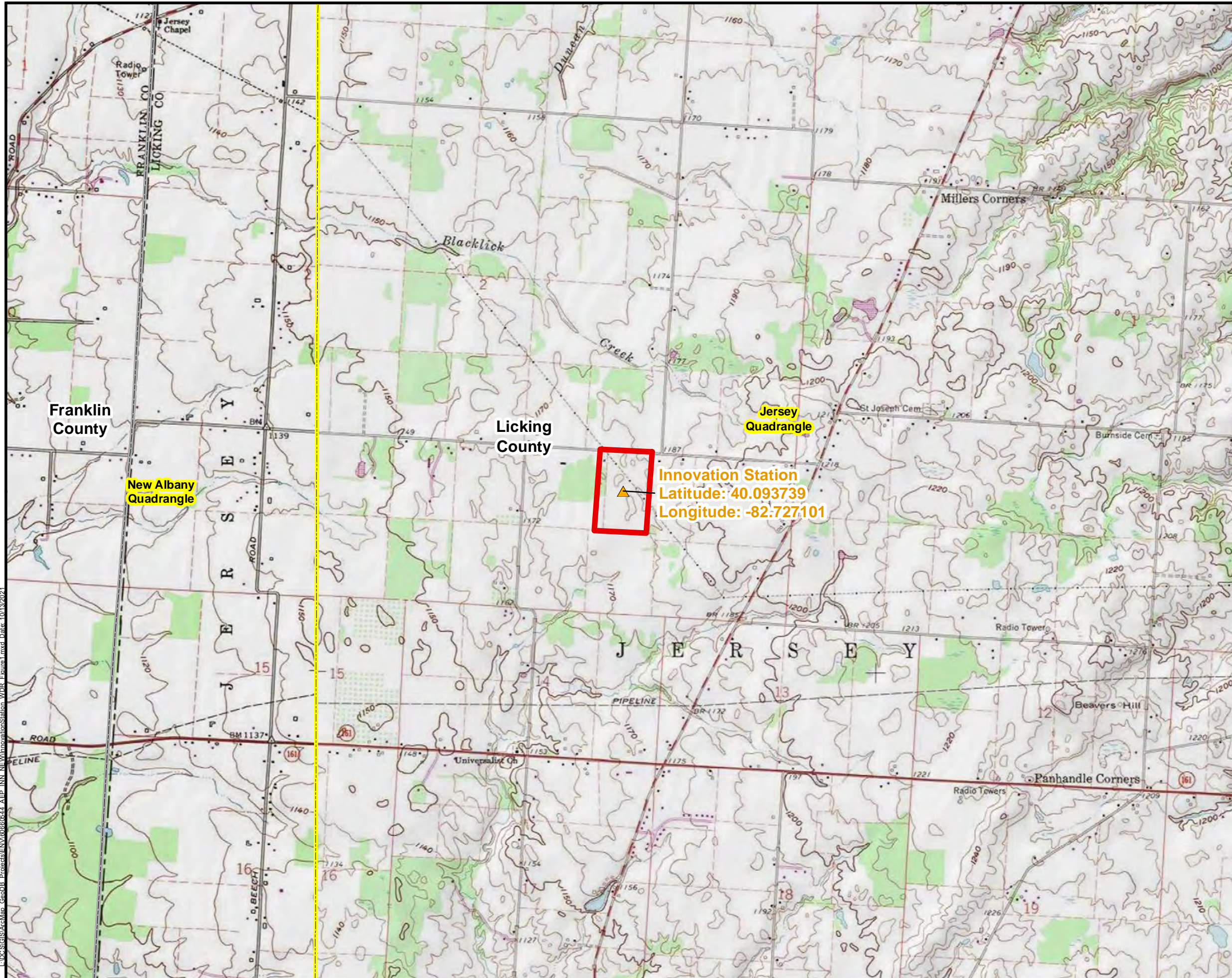
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U.S. Geological Survey. 2016. National Hydrography Dataset, Ohio Statewide Geodatabase. Published August 2016. Earth Science Information Center, USGS, Reston, VA.





LEGEND:

- ▲ Proposed Innovation Station
- Project Survey Area
- County
- USGS 7.5" Topographical Quadrangle



0 2,000 4,000  
Feet

BASE MAP SOURCE:  
Copyright:© 2013 National Geographic Society, i-cubed



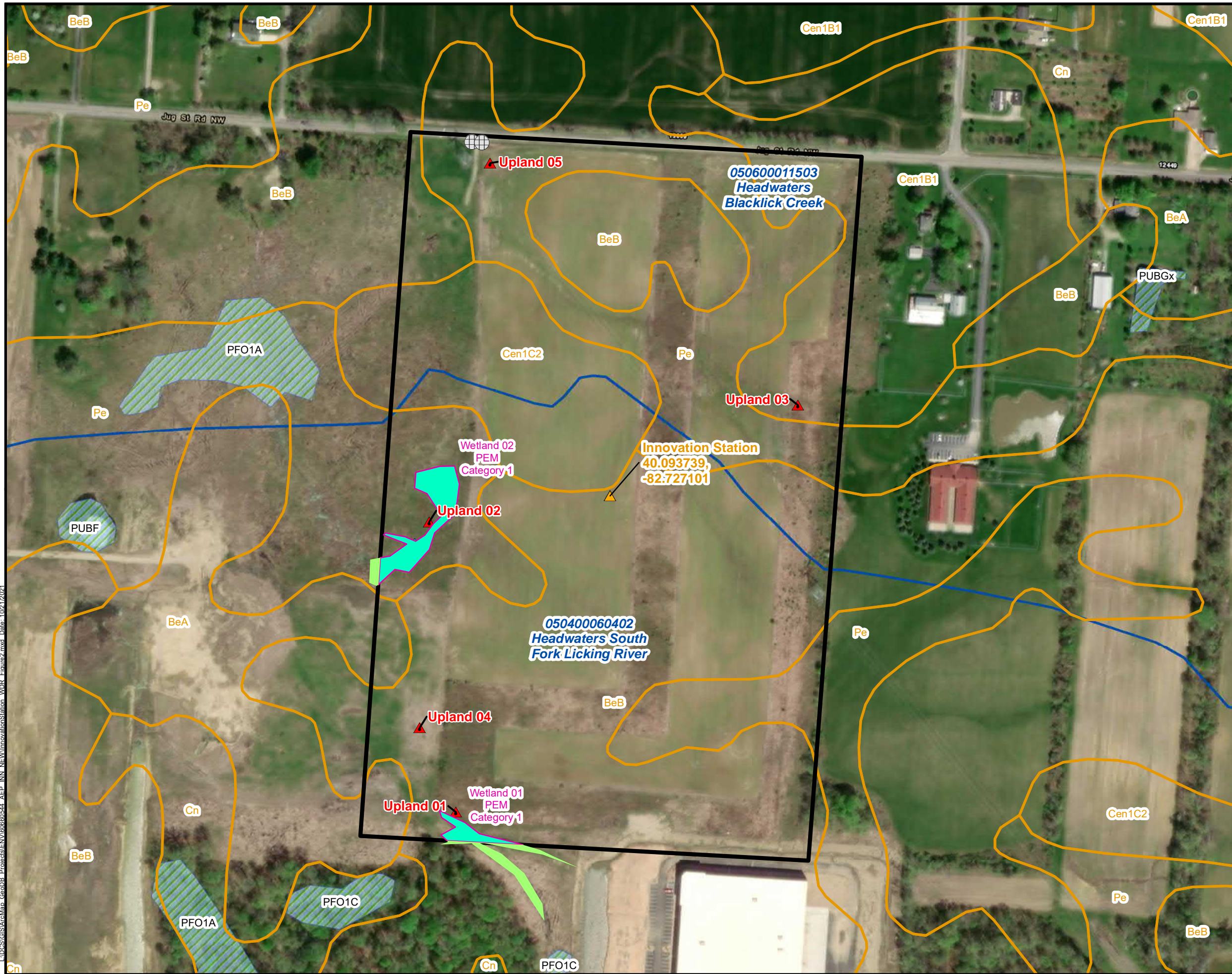
Innovation Substation  
138 kV Project

FIGURE 1  
OVERVIEW MAP

JOB NO. 60660544

AECOM



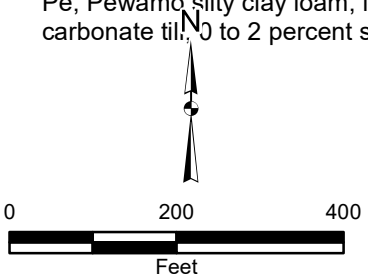


LEGEND:

- Wetlands Within Survey
- Wetlands Outside Survey
- Culvert
- Upland Data Point
- Wetland Data Point
- Proposed Innovation Station
- Project Survey Area
- NWI Wetland (USFWS)
- HUC12 (NHD)
- Soil Map Unit (USDA-NRCS)

Soil Map Unit Symbol

- BeA, Bennington silt loam, 0 to 2 percent slopes
- BeB, Bennington silt loam, 2 to 6 percent slopes
- Cen1B1, Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2, Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn, Condit silt loam, 0 to 1 percent slopes
- Pe, Pewamo silty clay loam, low carbonate til., 0 to 2 percent slopes



BASE MAP SOURCE:  
Source: Esri, Maxar, GeoEye, Earthstar Geographics,



Innovation Substation  
138 kV Project

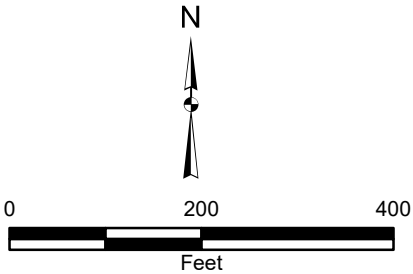
FIGURE 2  
SOILS AND NATIONAL  
WETLAND INVENTORY MAP





LEGEND:

- Wetlands Within Survey
- Wetlands Outside Survey
- Culvert
- Upland Data Point
- Wetland Data Point
- Proposed Innovation Station
- Project Survey



BASE MAP SOURCE:  
Source: Esri, Maxar, GeoEye, Earthstar Geographics,

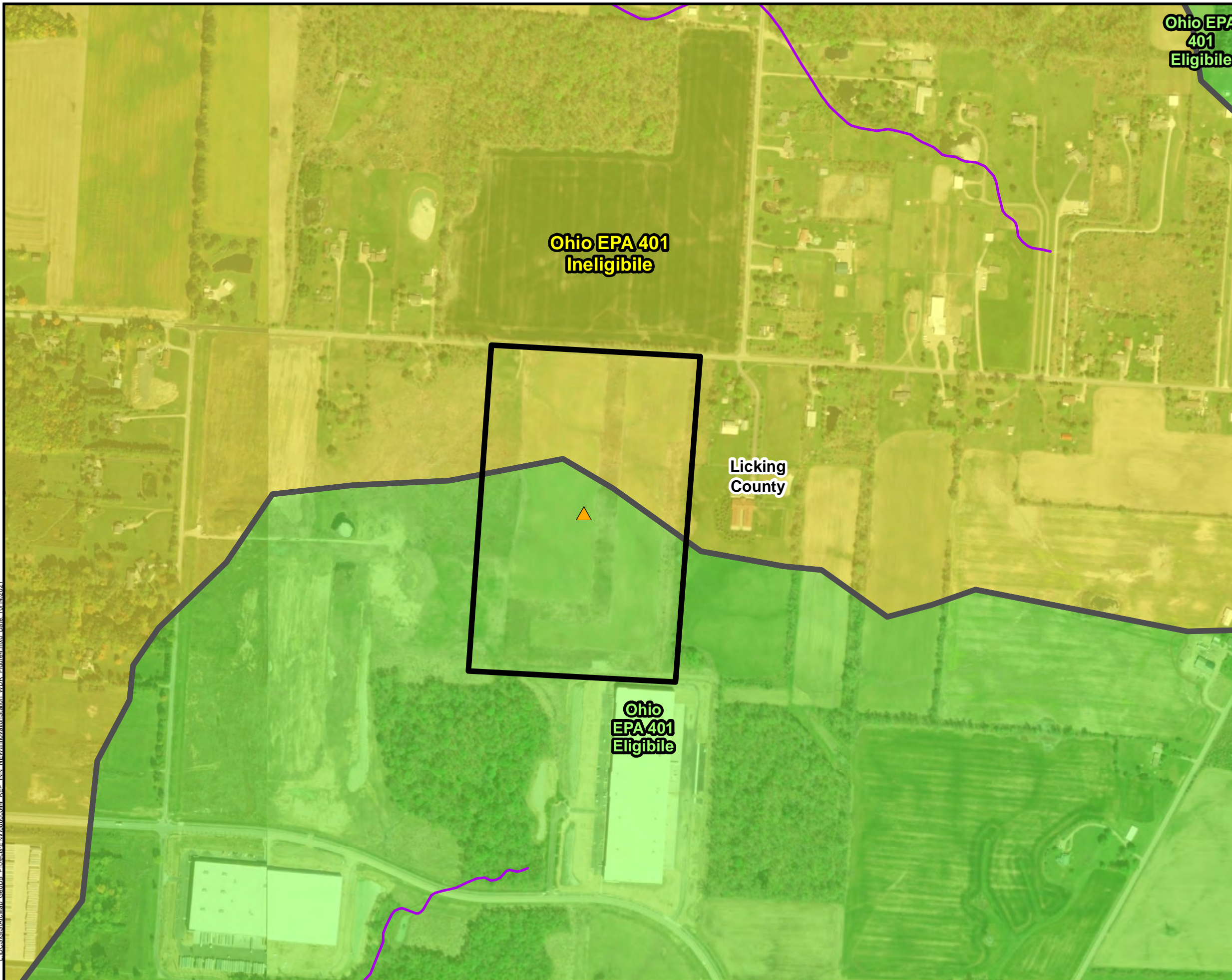


Innovation Substation  
138 kV Project

FIGURE 3  
WETLAND DELINEATION AND  
STREAM ASSESSMENT MAP

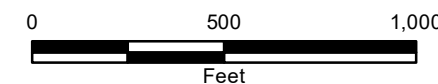


L:\DCS\GIS\ArcMap\_GeodB\_P\Projects\ENV\60660544\_AEP\_INN\_NEW\InnovationStation\_WDR\_Figure4.mxd Date: 10/14/2021



LEGEND:

- Station
- NHD Stream (USGS)
- Innovation Station Project Survey Area
- County
- OEPA Stream Eligibility:**
  - Eligible
  - Possibly Eligible



BASE MAP SOURCE:  
Source: Esri, Maxar, GeoEye, Earthstar Geographics,









Innovation Substation  
138 kV Project

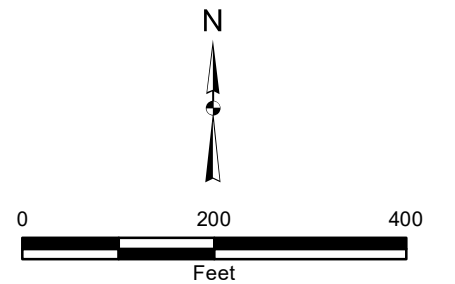
FIGURE 4  
STREAM ELIGIBILITY MAP





LEGEND:

-  Proposed Innovation Station
-  Old Field
-  Scrub-Shrub
-  Streams/Wetlands
-  Project Survey Area
-  County



BASE MAP SOURCE:  
Source: Esri, Maxar, GeoEye, Earthstar Geographics,



Innovation Substation  
138 kV Project

FIGURE 5  
VEGETATIVE COMMUNITIES MAP

JOB NO. 60660544

AECOM Imagine it. Delivered.



**APPENDIX A**  
**PROJECT WETLAND TABLE**

**INNOVATION 138KV STATION PROJECT  
WETLAND TABLE**

**10/28/2021**

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	40.091510	-82.728780	No	PEM	0.265	23.5	1	None/4	None	TBD	TBD	TBD	TBD
Wetland 2	40.093420	-82.728780	No	PEM	0.436	27.5	1	None/None	None	TBD	TBD	TBD	TBD
Total:					0.701							0.000	0.000

Please note that the information presented in this table may not be verified by applicable regulatory agencies.

**APPENDIX B****U.S. ARMY CORPS OF ENGINEERS WETLAND DATA FORMS****OEPA WETLAND ORAM FORMS****DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)**

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 06/03/2021  
 Applicant/Owner: AEP State: OH Sampling Point: W-JBL-20210603-01  
 Investigator(s): JBL,SKM Section, Township, Range: Q / T2N / R15W  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave  
 Slope (%): 1 Lat: 40.09151 Long: -82.72878 Datum: NAD 83  
 Soil Map Unit Name: BeB - Bennington silt loam, 2 to 6 percent slopes NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>      </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>      </u>
Hydric Soil Present? Yes <u>X</u> No <u>      </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>      </u>	
Remarks: Depressional area W-JBL-20210603-01 near woodlot. Wetland drains outside of survey area to east towards a drainage system which appears to flow towards an UNT of South Fork Licking River.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</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>100.0%</u> (A/B)																																
1. <u>N/A</u>																																				
2. <u>      </u>																																				
3. <u>      </u>																																				
4. <u>      </u>																																				
5. <u>      </u>																																				
=Total Cover																																				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				<b>Prevalence Index worksheet:</b>  <table border="0"> <tr> <td colspan="2">Total % Cover of:</td> <td colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td><u>60</u></td> <td>x 1 =</td> <td><u>60</u></td> </tr> <tr> <td>FACW species</td> <td><u>50</u></td> <td>x 2 =</td> <td><u>100</u></td> </tr> <tr> <td>FAC species</td> <td><u>10</u></td> <td>x 3 =</td> <td><u>30</u></td> </tr> <tr> <td>FACU species</td> <td><u>0</u></td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>120</u> (A)</td> <td></td> <td><u>190</u> (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>1.58</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>60</u>	x 1 =	<u>60</u>	FACW species	<u>50</u>	x 2 =	<u>100</u>	FAC species	<u>10</u>	x 3 =	<u>30</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>120</u> (A)		<u>190</u> (B)	Prevalence Index = B/A = <u>1.58</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>60</u>	x 1 =	<u>60</u>																																	
FACW species	<u>50</u>	x 2 =	<u>100</u>																																	
FAC species	<u>10</u>	x 3 =	<u>30</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>120</u> (A)		<u>190</u> (B)																																	
Prevalence Index = B/A = <u>1.58</u>																																				
1. <u>Rosa virginiana</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																																	
2. <u>      </u>																																				
3. <u>      </u>																																				
4. <u>      </u>																																				
5. <u>      </u>																																				
=Total Cover																																				
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius )				<b>Hydrophytic Vegetation Indicators:</b> <u>      </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
1. <u>Juncus effusus</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>																																	
2. <u>Scirpus atrovirens</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																																	
3. <u>Carex vulpinoidea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																																	
4. <u>Lysimachia nummularia</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																																	
5. <u>Leersia virginica</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																	
6. <u>      </u>																																				
7. <u>      </u>																																				
8. <u>      </u>																																				
9. <u>      </u>																																				
10. <u>      </u>																																				
=Total Cover																																				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>																																
1. <u>N/A</u>																																				
2. <u>      </u>																																				
=Total Cover																																				

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

Wetland Vegetation indicators present, dominance test is &gt;50%, prevalence index is less than or equal to 3.0. Dominant species are OBL, FACW, FAC



## SOIL

Sampling Point: IBL-20210603

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 4/2	95	10YR 4/6	5	C	PL/M	Loamy/Clayey	Prominent redox concentrations
8-17	10YR 4/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<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 checked="" 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)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_
**Hydric Soil Present?** Yes ☒ No ☐**Remarks:**

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))

Hydric soil indicators present indicated by prominent redox concentrations

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

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

Secondary Indicators (minimum of two required)

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

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): 12

 (includes capillary fringe)
**Wetland Hydrology Present?** Yes ☒ No ☐

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

**Remarks:**

Saturation present indicates wetland hydrology present. Wetland drains offsite to the east

<b>Version 5.0</b>	<b>Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization</b>
	<b>Background Information Scoring</b> <b>Boundary Worksheet Narrative</b> <b>Rating</b> <b>Field Form Quantitative Rating</b> <b>ORAM Summary Worksheet</b> <b>Wetland Categorization Worksheet</b>

Ohio EPA, Division of Surface Water Final:  
February 1, 2001

### Instructions

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

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

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

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

## Background Information

Name:	Jake Lubbers
Date:	6/3/2021
Affiliation:	AECOM
Address:	525 Vine Street, Suite 1800, Cincinnati, Ohio 45202
Phone Number:	513-419-3506
e-mail address:	<a href="mailto:jake.lubbers@aecom.com">jake.lubbers@aecom.com</a>
Name of Wetland:	Wetland 01
Vegetation Community(ies):	PEM
HGM Class(es):	Depressional

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

**See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.**

Lat/Long or UTM Coordinate:	40.09153, -82.72839
USGS Quad Name:	Jersey
County:	Licking County
Township:	T2N
Section and Subsection:	R15W
Hydrologic Unit Code:	50400060402
Site Visit:	6/3/2021
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	N/A
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland 01		
Wetland Size (delineated acres):	0.27	Wetland Size (Estimated total acres):	Approx. 0.3
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.			
<div></div>			
Comments, Narrative Discussion, Justification of Category Changes:			
<p>Wetland 01 is a PEM wetland near the southeast corner of the project survey area. Wetland is in a depressed landform and drains outside of suvey area to east towards a drainage system which appears to flow towards an UNT of South Fork Licking River.</p> <div></div>			
Final score:	23.5	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.

#	Steps in properly establishing scoring boundaries	done?	not applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	<b>X</b>	
<b>Step 2</b>	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.	<b>X</b>	
<b>Step 3</b>	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.	<b>X</b>	
<b>Step 4</b>	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.	<b>X</b>	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		<b>X</b>
<b>Step 6</b>	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.		<b>X</b>

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

<b>Wetland ID:</b>	<b>Wetland 01</b>
--------------------	-------------------

## Narrative Rating

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

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



<b>Wetland ID:</b>	<b>Wetland 01</b>
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<b>8b Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<b>*NO</b> Go to Question 9a
<b>9a Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<b>*NO</b> Go to Question 10
<b>9b</b> Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	<b>*NO</b> Go to Question 9c
<b>9c</b> Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	<b>*NO</b> Go to Question 10
<b>9d</b> Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	<b>*NO</b> Go to Question 9e
<b>9e</b> Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	<b>*NO</b> Go to Question 10
<b>10 Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<b>*NO</b> Go to Question 11
<b>11 Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<b>*NO</b> Complete Quantitative Rating

<b>Wetland ID:</b>	<b>Wetland 01</b>
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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 viridicarinarum</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.**

<b>Wetland ID:</b>	<b>Wetland 01</b>
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<b>Site:</b>	Innovation Station	<b>Rater(s):</b>	Jake Lubbers	<b>Date:</b>	6/3/2021
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<b>1.0</b>	<b>1.0</b>	<b>Metric 1. Wetland Area (size).</b>	<b>Field ID:</b>
max 6 pts	subtotal	<p>Select one size class and assign score.</p> <p><input type="checkbox"/> &gt;50 acres (&gt;20.2ha) (6 pts)</p> <p><input type="checkbox"/> 25 to &lt;50 acres (10.1 to &lt;20.2ha) (5 pts)</p> <p><input type="checkbox"/> 10 to &lt;25 acres (4 to &lt;10.1ha) (4 pts)</p> <p><input type="checkbox"/> 3 to &lt;10 acres (1.2 to &lt;4ha) (3 pts)</p> <p><input type="checkbox"/> 0.3 to &lt;3 acres (0.12 to &lt;1.2ha) (2pts)</p> <p><input checked="" type="checkbox"/> 0.1 to &lt;0.3 acres (0.04 to &lt;0.12ha) (1 pt)</p> <p><input type="checkbox"/> &lt;0.1 acres (0.04ha) (0 pts)</p>	w-jbl-20210603-01
		<p><b>Delineated acres:</b></p> <p>0.27</p>	
		<p><b>Total acres:</b></p> <p>approx. 0.3</p>	

<b>4.0</b>	<b>5.0</b>	<b>Metric 2. Upland buffers and surrounding land use.</b>
max 14 pts.	subtotal	<p><b>2a. Calculate average buffer width. Select only one and assign score. Do not double check.</b></p> <p><input type="checkbox"/> WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)</p> <p><input type="checkbox"/> MEDIUM. Buffers average 25m to &lt;50m (82 to &lt;164ft) around wetland perimeter (4)</p> <p><input checked="" type="checkbox"/> NARROW. Buffers average 10m to &lt;25m (32ft to &lt;82ft) around wetland perimeter (1)</p> <p><input type="checkbox"/> VERY NARROW. Buffers average &lt;10m (&lt;32ft) around wetland perimeter (0)</p> <p><b>2b. Intensity of surrounding land use. Select one or double check and average.</b></p> <p><input type="checkbox"/> VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)</p> <p><input checked="" type="checkbox"/> LOW. Old field (&gt;10 years), shrubland, young second growth forest. (5)</p> <p><input type="checkbox"/> MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)</p> <p><input checked="" type="checkbox"/> HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)</p>

<b>6.0</b>	<b>11.0</b>	<b>Metric 3. Hydrology.</b>										
max 30 pts.	subtotal	<p><b>3a. Sources of Water. Score all that apply.</b></p> <p><input type="checkbox"/> High pH groundwater (5)</p> <p><input type="checkbox"/> Other groundwater (3)</p> <p><input checked="" type="checkbox"/> Precipitation (1)</p> <p><input type="checkbox"/> Seasonal/Intermittent surface water (3)</p> <p><input type="checkbox"/> Perennial surface water (lake or stream) (5)</p> <p><b>3c. Maximum water depth. Select one.</b></p> <p><input type="checkbox"/> &gt;0.7 (27.6in) (3)</p> <p><input type="checkbox"/> 0.4 to 0.7m (15.7 to 27.6in) (2)</p> <p><input checked="" type="checkbox"/> &lt;0.4m (&lt;15.7in) (1)</p> <p><b>3e. Modifications to natural hydrologic regime. Score one or double check and average.</b></p> <p><input type="checkbox"/> None or none apparent (12)</p> <p><input type="checkbox"/> Recovered (7)</p> <p><input checked="" type="checkbox"/> Recovering (3)</p> <p><input checked="" type="checkbox"/> Recent or no recovery (1)</p> <p><b>3b. Connectivity. Score all that apply.</b></p> <p><input type="checkbox"/> 100 year floodplain (1)</p> <p><input type="checkbox"/> Between stream/lake and other human use (1)</p> <p><input type="checkbox"/> Part of wetland/upland (e.g. forest), complex (1)</p> <p><input type="checkbox"/> Part of riparian or upland corridor (1)</p> <p><b>3d. Duration inundation/saturation. Score one or dbl check.</b></p> <p><input type="checkbox"/> Semi- to permanently inundated/saturated (4)</p> <p><input checked="" type="checkbox"/> Regularly inundated/saturated (3)</p> <p><input type="checkbox"/> Seasonally inundated (2)</p> <p><input checked="" type="checkbox"/> Seasonally saturated in upper 30cm (12in) (1)</p> <p><b>Check all disturbances observed</b></p> <table border="0"> <tr> <td><input checked="" type="checkbox"/> ditch</td> <td><input checked="" type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td><input checked="" type="checkbox"/> tile</td> <td><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td><input type="checkbox"/> dike</td> <td><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td><input type="checkbox"/> weir</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input checked="" type="checkbox"/> stormwater input</td> <td><input type="checkbox"/> Other:</td> </tr> </table>	<input checked="" type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)	<input checked="" type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading	<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track	<input type="checkbox"/> weir	<input type="checkbox"/> dredging	<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)											
<input checked="" type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading											
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track											
<input type="checkbox"/> weir	<input type="checkbox"/> dredging											
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> Other:											

<b>7.5</b>	<b>18.5</b>	<b>Metric 4. Habitat Alteration and Development.</b>												
max 20 pts.	subtotal	<p><b>4a. Substrate disturbance. Score one or double check and average.</b></p> <p><input type="checkbox"/> None or none apparent (4)</p> <p><input checked="" type="checkbox"/> Recovered (3)</p> <p><input checked="" type="checkbox"/> Recovering (2)</p> <p><input type="checkbox"/> Recent or no recovery (1)</p> <p><b>4b. Habitat development. Select only one and assign score.</b></p> <p><input type="checkbox"/> Excellent (7)</p> <p><input type="checkbox"/> Very good (6)</p> <p><input type="checkbox"/> Good (5)</p> <p><input type="checkbox"/> Moderately good (4)</p> <p><input checked="" type="checkbox"/> Fair (3)</p> <p><input type="checkbox"/> Poor to fair (2)</p> <p><input type="checkbox"/> Poor (1)</p> <p><b>4c. Habitat alteration. Score one or double check and average.</b></p> <p><input type="checkbox"/> None or none apparent (9)</p> <p><input type="checkbox"/> Recovered (6)</p> <p><input checked="" type="checkbox"/> Recovering (3)</p> <p><input checked="" type="checkbox"/> Recent or no recovery (1)</p> <p><b>Check all disturbances observed</b></p> <table border="0"> <tr> <td><input type="checkbox"/> mowing</td> <td><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td><input type="checkbox"/> grazing</td> <td><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td><input checked="" type="checkbox"/> clearcutting</td> <td><input type="checkbox"/> sedimentation</td> </tr> <tr> <td><input checked="" type="checkbox"/> selective cutting</td> <td><input checked="" type="checkbox"/> dredging</td> </tr> <tr> <td><input checked="" type="checkbox"/> woody debris removal</td> <td><input type="checkbox"/> farming</td> </tr> <tr> <td><input type="checkbox"/> toxic pollutants</td> <td><input type="checkbox"/> nutrient enrichment</td> </tr> </table>	<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal	<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal	<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation	<input checked="" type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging	<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming	<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment
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<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment													

<b>18.5</b>
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

<b>Wetland ID:</b>	<b>Wetland 01</b>
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<b>Site:</b>	Innovation Station	<b>Rater(s):</b>	Jake Lubbers	<b>Date:</b>	6/3/2021
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<b>18.5</b>
subtotal this page

<b>Field ID:</b>
w-jbl-20210603-01

<b>0.0</b>	<b>18.5</b>
max 10 pts.	subtotal

### Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

<b>5.0</b>	<b>23.5</b>
max 20pts.	subtotal

### Metric 6. Plant communities, interspersions, microtopography.

#### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 2 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

#### 6b. horizontal (plan view) Interspersions.

Select only one.

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

#### 6c. Coverage of invasive plants. Refer

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

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

#### 6d. Microtopography.

Score all present using 0 to 3 scale.

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

#### Vegetation Community Cover Scale

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

#### Narrative Description of Vegetation Quality

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

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

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

#### Mudflat and Open Water Class Quality

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

#### Microtopography Cover Scale

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

<b>23.5</b>	<b>TOTAL (Max 100 pts)</b>
<b>1</b>	<b>Category</b>

<b>Wetland ID:</b>	<b>Wetland 01</b>
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### ORAM Summary Worksheet

		<b>Circle answer or insert score</b>	<b>Result</b>
Narrative Rating	Question 1. Critical Habitat	YES <b>*NO</b>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <b>*NO</b>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <b>*NO</b>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <b>*NO</b>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <b>*NO</b>	If yes, Category 1.
	Question 6. Bogs	YES <b>*NO</b>	If yes, Category 3.
	Question 7. Fens	YES <b>*NO</b>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <b>*NO</b>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <b>*NO</b>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <b>*NO</b>	If yes, Category 3
	Question 11. Relict Wet Prairies	YES <b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	<b>1</b>	
	Metric 2. Buffers and surrounding land use	<b>4</b>	
	Metric 3. Hydrology	<b>6</b>	
	Metric 4. Habitat	<b>7.5</b>	
	Metric 5. Special Wetland Communities	<b>0</b>	
	Metric 6. Plant communities, interspersions, microtopography	<b>5</b>	
	TOTAL SCORE	<b>23.5</b>	Category based on score breakpoints

**Complete Wetland Categorization Worksheet.**

<b>Wetland ID:</b>	<b>Wetland 01</b>
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## Wetland Categorization Worksheet

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





# PHOTOGRAPHIC RECORD

## WETLAND 01

**Client Name:**

AEP

**Site Location:**

Innovation 138kV Station Project

**Project No.**

60660544

### Wetland 01

**Date:**

June 3, 2021

**Description:**

PEM

Category 1

Facing North



### Wetland 01

**Date:**

June 3, 2021

**Description:**

PEM

Category 1

Facing East







# PHOTOGRAPHIC RECORD

## WETLAND 01

<b>Client Name:</b> AEP	<b>Site Location:</b> Innovation 138kV Station Project	<b>Project No.</b> 60660544
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<b>Wetland 01</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  PEM  Category 1  Facing South	

<b>Wetland 01</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  PEM  Category 1  Facing West	





**PHOTOGRAPHIC RECORD**  
**WETLAND 01**

**Client Name:**

AEP

**Site Location:**

Innovation 138kV Station Project

**Project No.**

60660544

**Wetland 01**

**Date:**

June 3, 2021

**Description:**

PEM

Category 1

Soil Pit



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 06/03/2021  
Applicant/Owner: AEP State: OH Sampling Point: W-JBL-20210603-02  
Investigator(s): JBL, SKM Section, Township, Range: Q / T2N / R15W  
Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave  
Slope (%): 1 Lat: 40.09342 Long: -82.72878 Datum: NAD 83  
Soil Map Unit Name: Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: N/A  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No x (If no, explain in Remarks.)  
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x No  
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No  
Hydric Soil Present? Yes X No  
Wetland Hydrology Present? Yes X No

Is the Sampled Area  
within a Wetland? Yes X No

## Remarks:

Depressional area W-JBL-20210603-02. Wetland extends offsite to the west towards multiple NWI wetlands, which appear to have a hydrological connection to UNT to South Fork Licking River.

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	

Sapling/Shrub Stratum	(Plot size: 15' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Fraxinus pennsylvanica</i>		10	Yes	FACW
2.				
3.				
4.				
5.				
		10	=Total Cover	

Herb Stratum	(Plot size: 5' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Juncus effusus</i>		70	Yes	OBL
2. <i>Typha X glauca</i>		15	No	OBL
3. <i>Persicaria pensylvanica</i>		10	No	FACW
4. <i>Lysimachia nummularia</i>		10	No	FACW
5. <i>Packera glabella</i>		5	No	FACW
6.				
7.				
8.				
9.				
10.				
		110	=Total Cover	

Woody Vine Stratum	(Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status
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: 2 (B)  
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

## Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 85	x 1 = 85
FACW species 35	x 2 = 70
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 120 (A)	155 (B)
Prevalence Index = B/A = 1.29	

## Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

## Hydrophytic Vegetation

Present? Yes X No

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

Hydrophytic Vegetation present, dominance test >50%, prevalence index is <3.0%. Dominant species OBL, FACW

## SOIL

Sampling Point: IBL-20210601

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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/2	98	10YR 4/4	2	C	PL/M	Loamy/Clayey	Distinct redox concentrations
4-17	10YR 3/1	90	10YR 4/4	10	C	M	Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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 checked="" 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)

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

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

Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators present, distinct redox concentrations

## HYDROLOGY

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

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): 14 (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Saturation present at 14 inches, wetland hydrology present, connectivity with an offsite NWI

<b>Version 5.0</b>	<b>Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization</b>
	<b>Background Information Scoring</b> <b>Boundary Worksheet Narrative</b> <b>Rating</b> <b>Field Form Quantitative Rating</b> <b>ORAM Summary Worksheet</b> <b>Wetland Categorization Worksheet</b>

Ohio EPA, Division of Surface Water Final:  
February 1, 2001

### Instructions

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

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

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

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

## Background Information

Name:	Jake Lubbers
Date:	6/03/2020
Affiliation:	AECOM
Address:	525 Vine Street, Suite 1800, Cincinnati, Ohio 45202
Phone Number:	513-419-3506
e-mail address:	<a href="mailto:jake.lubbers@aecom.com">jake.lubbers@aecom.com</a>
Name of Wetland:	Wetland 02
Vegetation Community(ies):	PEM
HGM Class(es):	Depressional

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

**See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.**

Lat/Long or UTM Coordinate:	40.09342, -82.72878
USGS Quad Name:	Jersey
County:	Licking County
Township:	T2N
Section and Subsection:	Q
Hydrologic Unit Code:	50400060402
Site Visit:	
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	N/A
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland		
Wetland Size (delineated acres):	0.44	Wetland Size (Estimated total acres):	Approx. 2.69
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.			
<div></div>			
Comments, Narrative Discussion, Justification of Category Changes:			
Field Wetland Point W-JBL-20210603-02, taken at a depressional area. Wetland extends offsite to the west towards multiple NWI wetlands, which appear to have a hydrological connection to UNT to South Fork Licking River.			
<div></div>			
Final score:	27.5	Category:	1



<b>Wetland ID:</b>	<b>Wetland</b>
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## Scoring Boundary Worksheet

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

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

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

<b>Wetland ID:</b>	<b>Wetland</b>
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## Narrative Rating

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

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

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

<b>Wetland ID:</b>	<b>Wetland</b>
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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 viridicarinarum</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 xglauc</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 oxycoccus</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.**

<b>Wetland ID:</b>	<b>Wetland</b>
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<b>Site:</b>	Innovation Station	<b>Rater(s):</b>	Jake Lubbers	<b>Date:</b>	6/03/2020
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<b>2.0</b>	<b>2.0</b>
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max 6 pts subtotal

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

Select one size class and assign score.

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

### Field ID:

w-jbl-20210603-01

<b>Delineated acres:</b>	0.44
<b>Total acres:</b>	Approx. 2.69

<b>10.0</b>	<b>12.0</b>
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max 14 pts. subtotal

### Metric 2. Upland buffers and surrounding land use.

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

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

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

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

<b>8.5</b>	<b>20.5</b>
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max 30 pts. subtotal

### Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

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

<b>6.0</b>	<b>26.5</b>
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max 20 pts. subtotal

### Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

<b>26.5</b>
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subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

<b>Wetland ID:</b>	<b>Wetland</b>
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<b>Site:</b>	Innovation Station	<b>Rater(s):</b>	Jake Lubbers	<b>Date:</b>	6/03/2020
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<b>26.5</b>
subtotal this page

<b>Field ID:</b>
w-jbl-20210603-01

<b>0.0</b>	<b>26.5</b>
max 10 pts.	subtotal

### Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

<b>1.0</b>	<b>27.5</b>
max 20pts.	subtotal

### Metric 6. Plant communities, interspersions, microtopography.

#### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 2 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

#### 6b. horizontal (plan view) Interspersions.

Select only one.

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

#### 6c. Coverage of invasive plants. Refer

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

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

#### 6d. Microtopography.

Score all present using 0 to 3 scale.

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

#### Vegetation Community Cover Scale

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

#### Narrative Description of Vegetation Quality

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

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

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

#### Mudflat and Open Water Class Quality

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

#### Microtopography Cover Scale

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

<b>27.5</b>	<b>TOTAL (Max 100 pts)</b>
<b>1</b>	<b>Category</b>



<b>Wetland ID:</b>	<b>Wetland</b>
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### ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	<b>*NO</b>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	<b>*NO</b>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	<b>*NO</b>	If yes, Category 3.
	Question 4. Significant bird habitat	YES	<b>*NO</b>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	<b>*NO</b>	If yes, Category 1.
	Question 6. Bogs	YES	<b>*NO</b>	If yes, Category 3.
	Question 7. Fens	YES	<b>*NO</b>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	<b>*NO</b>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	<b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	<b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	<b>*NO</b>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	<b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	<b>*NO</b>	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	<b>*NO</b>	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	<b>2</b>		
	Metric 2. Buffers and surrounding land use	<b>10</b>		
	Metric 3. Hydrology	<b>8.5</b>		
	Metric 4. Habitat	<b>6</b>		
	Metric 5. Special Wetland Communities	<b>0</b>		
	Metric 6. Plant communities, interspersions, microtopography	<b>1</b>		
	TOTAL SCORE	<b>27.5</b>		Category based on score breakpoints

**Complete Wetland Categorization Worksheet.**

<b>Wetland ID:</b>	<b>Wetland</b>
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## Wetland Categorization Worksheet

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



# PHOTOGRAPHIC RECORD

## WETLAND 01

<b>Client Name:</b> AEP	<b>Site Location:</b> Innovation 138kV Station Project	<b>Project No.</b> 60660544
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<b>Wetland 02</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  PEM  Category 1  Facing North	

<b>Wetland 02</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  PEM  Category 1  Facing East	





# PHOTOGRAPHIC RECORD

## WETLAND 01

<b>Client Name:</b> AEP	<b>Site Location:</b> Innovation 138kV Station Project	<b>Project No.</b> 60660544
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<b>Wetland 02</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  PEM  Category 1  Facing South	

<b>Wetland 02</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  PEM  Category 1  Facing West	



**PHOTOGRAPHIC RECORD**  
**WETLAND 01**

**Client Name:**

AEP

**Site Location:**

Innovation 138kV Station Project

**Project No.**

60660544

**Wetland 02**

**Date:**

June 3, 2021

**Description:**

PEM

Category 1

Soil Pit



# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 6/3/2021  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20210603-01  
 Investigator(s): JBL, SKM Section, Township, Range: Q / T2N / R15W  
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave  
 Slope (%): 1 Lat: 40.09434 Long: -82.72548 Datum: NAD 83  
 Soil Map Unit Name: Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>      </u>	Is the Sampled Area within a Wetland? Yes <u>      </u> No <u>X</u>
Hydric Soil Present? Yes <u>      </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>      </u>	
Remarks: Upland UPL-JBL-20210603-01 consists of a drainage swale with cottonwoods. Swale does not drain to another water.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>75.0%</u> (A/B)
1. <u>N/A</u>					
2. <u>      </u>					
3. <u>      </u>					
4. <u>      </u>					
5. <u>      </u>					
		=Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15' radius</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>150</u> (A) <u>470</u> (B) Prevalence Index = B/A = <u>3.13</u>
1. <u>Populus deltoides</u>		<u>60</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>      </u>					
3. <u>      </u>					
4. <u>      </u>					
5. <u>      </u>					
		<u>60</u>	=Total Cover		
Herb Stratum	(Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>      </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>      </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Solidago gigantea</u>		<u>20</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Geum canadense</u>		<u>20</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Ambrosia artemisiifolia</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Panicum virgatum</u>		<u>10</u>	<u>No</u>	<u>FAC</u>	
5. <u>Setaria faberi</u>		<u>10</u>	<u>No</u>	<u>FACU</u>	
6. <u>Glechoma hederacea</u>		<u>10</u>	<u>No</u>	<u>FACU</u>	
7. <u>      </u>					
8. <u>      </u>					
9. <u>      </u>					
10. <u>      </u>					
		<u>90</u>	=Total Cover		
Woody Vine Stratum	(Plot size: <u>30' radius</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>      </u>
1. <u>N/A</u>					
2. <u>      </u>					
		=Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic Vegetation present as dominance test > 50%, dominant species are FAC, FACW, FACU					



## SOIL

Sampling Point: jbl-20210603

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 <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR 3/1	100					Loamy/Clayey	
14-17	10YR 3/2	95	10yr 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators not present

## HYDROLOGY

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

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 no obvious drainage connectivity. Primary source of hydrology is concentration of precipitation in geomorphic position

# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 06/03/2021  
 Applicant/Owner: AEP State: OH Sampling Point: UPL-JBL-20210603-02  
 Investigator(s): JBL, SKM Section, Township, Range: Q / T2N / R15W  
 Landform (hillside, terrace, etc.): sloping Local relief (concave, convex, none): none  
 Slope (%): 2 Lat: 40.09164 Long: -82.72843 Datum: NAD 83  
 Soil Map Unit Name: BeB - Bennington silt loam, 2 to 6 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     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes x No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u>
Hydric Soil Present? Yes <u>    </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	
Remarks: Upland point UPL-JBL-20210603-02 for associated wetland W-JBL-20210603-01 to the south.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>				
2. <u>    </u>				
3. <u>    </u>				
4. <u>    </u>				
5. <u>    </u>				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15' radius</u> )			
1. <u>Rubus allegheniensis</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Fraxinus pennsylvanica</u>		<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. <u>    </u>				
4. <u>    </u>				
5. <u>    </u>				
		<u>30</u>	=Total Cover	
Herb Stratum	(Plot size: <u>5' radius</u> )			
1. <u>Solidago altissima</u>		<u>40</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Poa pratensis</u>		<u>30</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Erigeron annuus</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>
4. <u>    </u>				
5. <u>    </u>				
6. <u>    </u>				
7. <u>    </u>				
8. <u>    </u>				
9. <u>    </u>				
10. <u>    </u>				
		<u>90</u>	=Total Cover	
Woody Vine Stratum	(Plot size: <u>30' radius</u> )			
1. <u>N/A</u>				
2. <u>    </u>				
		=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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120</u> (A)	<u>430</u> (B)
Prevalence Index = B/A = <u>3.58</u>	

**Hydrophytic Vegetation Indicators:**

     1 - Rapid Test for Hydrophytic Vegetation

     2 - Dominance Test is >50%

     3 - Prevalence Index is ≤3.0<sup>1</sup>

     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Hydrophytic Vegetation Present?** Yes      No X

Remarks: (Include photo numbers here or on a separate sheet.)  
 No hydrophytic vegetation present, dominant species are FACU, FAC, and FACW

## SOIL

Sampling Point: JBL-202106C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 4/3	100					Loamy/Clayey	
8-17	10YR 4/3	99	10yr 4/6	1	C	M	Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators not present

## HYDROLOGY

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

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 this is an Upland point with no wetland hydrology indicators

# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 06/03/2021  
 Applicant/Owner: AEP State: OH Sampling Point: UPL-JBL-20210603-03  
 Investigator(s): JBL, SKM Section, Township, Range: Q / T2N / R15W  
 Landform (hillside, terrace, etc.): sloping Local relief (concave, convex, none): none  
 Slope (%): 2 Lat: 40.09220 Long: -82.72874 Datum: NAD 83  
 Soil Map Unit Name: BeB, Bennington silt loam, 2 to 6 percent slopes NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <u>      </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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>X</u>
Remarks: Upland point UPL-JBL-20210603-03 in mixed vegetation area.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>50.0%</u> (A/B)																
1. <u>N/A</u>																					
2. <u>      </u>																					
3. <u>      </u>																					
4. <u>      </u>																					
5. <u>      </u>																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius )				<b>Prevalence Index worksheet:</b>  <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>425</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.40</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>425</u> (B)	Prevalence Index = B/A = <u>3.40</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>10</u>	x 2 = <u>20</u>																				
FAC species <u>55</u>	x 3 = <u>165</u>																				
FACU species <u>60</u>	x 4 = <u>240</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>125</u> (A)	<u>425</u> (B)																				
Prevalence Index = B/A = <u>3.40</u>																					
1. <u>N/A</u>																					
2. <u>      </u>																					
3. <u>      </u>																					
4. <u>      </u>																					
5. <u>      </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> radius )				<b>Hydrophytic Vegetation Indicators:</b> <u>      </u> 1 - Rapid Test for Hydrophytic Vegetation <u>      </u> 2 - Dominance Test is >50% <u>      </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Solidago altissima</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Poa pratensis</u>		<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Erigeron annuus</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Carex annectens</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Rumex crispus</u>		<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
6. <u>Juncus tenuis</u>		<u>15</u>	<u>No</u>	<u>FAC</u>																	
7. <u>Ambrosia artemisiifolia</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
8. <u>Packera glabella</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
9. <u>Xanthium spinosum</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Trifolium pratense</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
		<u>125</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> radius )				<b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>X</u>																
1. <u>N/A</u>																					
2. <u>      </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic Vegetation not present as dominance test <50%, Dominant species are FACU, FAC, FACW																					

## SOIL

Sampling Point: JBL-202106C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 4/3	100					Loamy/Clayey	
7-12	10YR 4/2	98	10YR 4/4	2	C	M	Loamy/Clayey	Distinct redox concentrations
12-18	10YR 4/2	96	10YR 4/4	4	C	M	Loamy/Clayey	Distinct redox concentrations

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

<b>Hydric Soil Indicators:</b> <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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators not present

## HYDROLOGY

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

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 potentially isolated, no obvious drainage connectivity. Primary source of hydrology is concentration of precipitation in geomorphic position

# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 06/03/2021  
 Applicant/Owner: AEP State: OH Sampling Point: UPL-JBL-20210603-04  
 Investigator(s): JBL, SKM Section, Township, Range: Q / T2N / R15W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex  
 Slope (%): 2 Lat: 40.09356 Long: -82.72866 Datum: NAD 83  
 Soil Map Unit Name: Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland point UPL-JBL-20210603-04 for associated wetland W-JBL-20210603-02, located on berm in between sections of wetland.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15' radius</u> )			
1. <u>Rubus allegheniensis</u>		<u>60</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Quercus macrocarpa</u>		<u>10</u>	<u>No</u>	<u>FAC</u>
3. <u>Quercus palustris</u>		<u>10</u>	<u>No</u>	<u>FACW</u>
4. _____				
5. _____				
		<u>80</u>	=Total Cover	
Herb Stratum	(Plot size: <u>5' radius</u> )			
1. <u>Solidago altissima</u>		<u>60</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Juncus tenuis</u>		<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		<u>80</u>	=Total Cover	
Woody Vine Stratum	(Plot size: <u>30' radius</u> )			
1. <u>N/A</u>				
2. _____				
		=Total Cover		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>120</u>	x 4 = <u>480</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160</u> (A)	<u>590</u> (B)
Prevalence Index = B/A = <u>3.69</u>	

**Hydrophytic Vegetation Indicators:**

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>

☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Hydrophytic Vegetation Present?** Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)  
 Hydrophytic Vegetation present as dominance test <50%, dominant species are FACU, FAC, FACW



## SOIL

Sampling Point: JBL-202106C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 2/2	100					Loamy/Clayey	
10-17	10YR 3/2	10					Loamy/Clayey	

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

<b>Hydric Soil Indicators:</b> <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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
---	---

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
---	---

Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators not present

## HYDROLOGY

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

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

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

Remarks:  
 This is an upland point with no hydrology present

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Innovation Station Project City/County: Licking County Sampling Date: 06/03/2021  
 Applicant/Owner: AEP State: OH Sampling Point: upt-jbl-20210603-05  
 Investigator(s): JBL, SKM Section, Township, Range: Q / T2N / R15W  
 Landform (hillside, terrace, etc.): sloping depressional Local relief (concave, convex, none): none  
 Slope (%): 2 Lat: 40.09594 Long: -82.72815 Datum: NAD 83  
 Soil Map Unit Name: Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes        No x (If no, explain in Remarks.)  
 Are Vegetation x, Soil       , or Hydrology        significantly disturbed? Are "Normal Circumstances" present? Yes x No         
 Are Vegetation       , Soil       , or Hydrology        naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>      </u> No <u>x</u>	Is the Sampled Area within a Wetland? Yes <u>      </u> No <u>X</u>
Hydric Soil Present? Yes <u>      </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>      </u>	
Remarks: Upland point UPL-JBL-20210603-05 on edge of area with appaent matted down vegetation. Sample point taken down gradient of area devoid of vegetation.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>50.0%</u> (A/B)																
1. <u>N/A</u>																				
2. <u>      </u>																				
3. <u>      </u>																				
4. <u>      </u>																				
5. <u>      </u>																				
				<b>Prevalence Index worksheet:</b>  <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>245</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.06</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>80</u> (A)	<u>245</u> (B)	Prevalence Index = B/A = <u>3.06</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>35</u>	x 3 = <u>105</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>80</u> (A)	<u>245</u> (B)																			
Prevalence Index = B/A = <u>3.06</u>																				
=Total Cover																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> radius )																				
1. <u>N/A</u>																				
2. <u>      </u>																				
3. <u>      </u>																				
4. <u>      </u>																				
5. <u>      </u>																				
				<b>Hydrophytic Vegetation Indicators:</b> <u>      </u> 1 - Rapid Test for Hydrophytic Vegetation <u>      </u> 2 - Dominance Test is >50% <u>      </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>      </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>      </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5'</u> radius )																				
1. <u>Rumex crispus</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Packera glabella</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Schedonorus arundinaceus</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Viola bicolor</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
5. <u>Cyperus esculentus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Phalaris arundinacea</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Ambrosia artemisiifolia</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
8. <u>Geum canadense</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
9. <u>      </u>																				
10. <u>      </u>																				
				<b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>x</u>																
80 =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u> radius )																				
1. <u>N/A</u>																				
2. <u>      </u>																				
=Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic Vegetation not present as dominance test is not > 50%, dominant species are FAC, FACW, FACU																				

## SOIL

Sampling Point: -jbl-20210603

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 <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 3/2	100					Loamy/Clayey	
10-15	10YR 3/2	98	7.5YR 3/4	2	C	M	Loamy/Clayey	Distinct redox concentrations
15-18	10YR 3/2	96	7.5YR 4/4	4	C	M	Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. ([https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_053171.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators not present

## HYDROLOGY

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

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present?    Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present?    Yes <u>x</u> No _____    Depth (inches): 15 (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 currently raining, and abundant rain over last 48 hours, and no water table observed in ot, Primary source of hydrology is concentration of precipitation in geomorphic position

**APPENDIX C****HABITAT AND OTHER IDENTIFIED FEATURES PHOTOGRAPHS**

<b>Client Name:</b> AEP	<b>Site Location:</b> Innovation 138kV Station Project	<b>Project No.</b> 60660544
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<b>Wetland</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  View of Wetland 2  Facing North	

<b>Scrub Shrub</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  View of scrub-shrub area in eastern portion of the Project survey area.  Facing North	





## PHOTOGRAPHIC RECORD

### Habitat and Other Features

<b>Client Name:</b> AEP	<b>Site Location:</b> Innovation 138kV Station Project	<b>Project No.</b> 60660544
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<b>Old Field</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  View of old field habitat in central portion of the Project survey area.  Facing South	

<b>Upland Drainage Feature</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  View of constructed upland drainage feature along southern border of the Project survey area.  Facing East	



## PHOTOGRAPHIC RECORD

### Habitat and Other Features

<b>Client Name:</b> AEP	<b>Site Location:</b> Innovation 138kV Station Project	<b>Project No.</b> 60660544
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<b>Upland Drainage Feature</b>	
<b>Date:</b> June 3, 2021	
<b>Description:</b>  View of constructed upland drainage feature along southern border of the Project survey area.  Facing West	

**APPENDIX D****AGENCY CORRESPONDENCE**





# Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

## Office of Real Estate

*John Kessler, Chief*

2045 Morse Road – Bldg. E-2

Columbus, OH 43229

Phone: (614) 265-6621

Fax: (614) 267-4764

October 21, 2021

Jake Lubbers  
AECOM  
525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

**Re:** 21-0913; AEP Innovation Station Project

**Project:** The proposed project involves the construction of the Innovation Substation.

**Location:** The proposed project is located in Jersey Township, Licking County, Ohio.

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

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened 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 Erin Hazelton at [Erin.hazelton@dnr.ohio.gov](mailto:Erin.hazelton@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 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 Erin Hazelton 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 fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. 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 this species.

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

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the 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.



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

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, 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. Your local floodplain administrator contact information can be found at the website below.

[http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\\_8\\_16.pdf](http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf)

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

Mike Pettegrew  
Environmental Services Administrator (Acting)

Brewster, Heather

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From: Ohio, FW3 <ohio@fws.gov>  
Sent: Thursday, October 07, 2021 3:27 PM  
To: Lubbers, Jake  
Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate; ajtoohey@aep.com; Brewster, Heather  
Subject: [EXTERNAL] AEP Innovation Station Project in Licking County, Ohio



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



TAILS# 03E15000-2019-TA-1865

Dear Mr. Lubbers,

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  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  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  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  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 <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

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

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

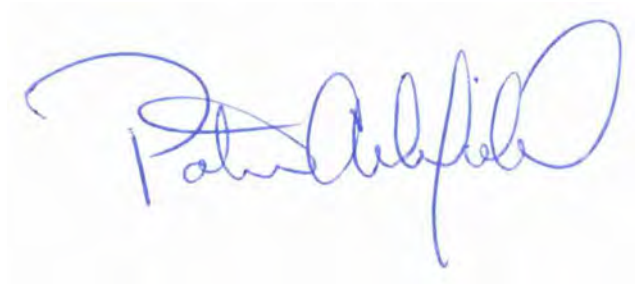
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus it is important to conserve the functions and values of the remaining wetlands in Ohio ([https://epa.ohio.gov/portals/47/facts/ohio\\_wetlands.pdf](https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf)). 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](mailto: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](mailto:ohio@fws.gov).

Sincerely,

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

Patrice M. Ashfield  
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW  
Kate Parsons, ODNR-DOW

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

**11/29/2021 4:20:08 PM**

**in**

**Case No(s). 21-1083-EL-BLN**

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