# Letter of Notification for the Arboles Station 138 kV Transmission Line Adjustment Project



An **AEP** Company

PUCO Case No. 22-0447-EL-BLN

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

Submitted by: Ohio Power Company, Inc.

June 21, 2022

# LETTER OF NOTIFICATION FOR ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT Letter of Notification

## Ohio Power Company, Inc. Arboles Station 138 kV Transmission Line Adjustment Project

## 4906-6-05

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

## 4906-6-05(B) General Information

## **B(1) Project Description**

The applicant shall provide the name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification or Construction Notice application.

The Company is proposing the Arboles Station 138 kV Transmission Line Adjustment Project (the "Project"), in Scioto Township, Pike County, Ohio. The Project consists of rebuilding and rerouting existing 138 kV transmission lines to serve the new Arboles Station (21-1084-EL-BLN) from Don Marquis, Waverly, and South Lucasville stations.

Approximately 0.3 mile of the existing Lucasville-Sargents 138 kV line will be rerouted into Arboles Station on new structures and centerline while approximately 0.5 mile of the existing line will be removed. In addition, 0.4 mile of the Waverly-Sargents 138 kV line will be rebuilt from a single circuit line to a double circuit line (Arboles-Don Marquis 138 kV circuit and Arboles-Waverly 138 kV circuit) and routed into Arboles Station less than 0.1 mile of new centerline and removing 0.3 mile of the existing line asset. Additionally, the Don Marquis 138 kV Loop No. 2 will be modified from a double circuit to operate as a six-wired single-circuit configuration by installing jumper loops between the existing double circuit conductors between Don Marquis Station and Waverly-Sargents 138 kV line.

The above-mentioned line work creates 3 circuits to Arboles Station: Arboles-South Lucasville 138 kV circuit (Lucasville-Sargents 138 kV line), Arboles-Waverly 138 kV circuit (Waverly-Sargents 138 kV line), and Arboles-Don Marquis 138 kV circuit (Don Marquis Loop No. 2 138kV Line & Waverly-Sargents 138 kV line); and will eliminate the Don Marquis-South Lucasville 138 kV circuit and the Don Marquis-Waverly No. 1 138 kV circuit.

The Project meets the requirements for a LON because it is within the types of projects defined by Item (1)(b) and (2)(a) of 4906-1-01 *Appendix A Application Requirement Matrix For Electric Power Transmission Lines* as it is replacing structures with a different type of structure for less than two miles. Item (1)(b) and (2)(a) of 4906-1-01 *Appendix A* states:

- (1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:
  - (b) Line(s) greater than 0.2 miles in length but no greater than two lines in length.

- (2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:
  - (a) Two miles or less.

The Project has been assigned PUCO Case No. 22-0447-EL-BLN.

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

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

As part of a governmental agency customer service request, the Company plans to rebuild or reroute two 138 kV transmission lines to serve the new Arboles Station located in Waverly, Ohio. In order to serve Arboles Station, the existing Don Marquis – South Lucasville 138 kV circuit will need to be partially rebuilt and routed into the new Arboles Station to create a new Arboles - South Lucasville 138 kV circuit, and a Arboles - Don Marquis 138 kV circuit. Additionally, the Don Marquis – Waverly #1 138 kV circuit will need to be re-routed to enter the new Arboles Station and removed from the double circuit section back to Don Marquis Station. Per the requirements from the Customer, these three independent sources are needed to serve this location due to the sensitive nature of the load. Any additional details can be provided confidentially.

The addition of the new 138 kV transmission circuits to serve Arboles Station also benefits existing customers by creating a through-path. Arboles Station will interconnect with the existing Don Marquis-South Lucasville 138 kV circuit, which serves load to Wakefield Station (3.5 MW peak load, 1,989 customers). Re-routing these circuits into Arboles Station will reduce the exposure of potential outages caused by the Don Marquis-South Lucasville 138 kV circuit. Failure to move forward with the proposed project will result in the Company's inability to serve the customer's load expectations and thereby jeopardize the customer's plans in the area.

The need and solution for this supplemental project was presented and reviewed with stakeholders the October 26th, 2018 and March 10th, 2020 PJM SRRTEP meeting (s2213). The Project was listed in the 2021 AEP Ohio supplemental LTFR document, page 17 (Form FE-T9, Planned Transmission Lines).

## **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 is shown on Exhibit 1, in Appendix A. Exhibit 2, in Appendix A, identifies the Project components on an October 8, 2020 aerial map.

## **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 one parcel, Parcel No. 200000186000, that is owned by the Customer. Other alternatives would require impacting neighboring properties, as opposed to remaining entirely on the Customer's property, or would require extensive civil earthwork due to the steep terrain in the vicinity of the Project area. The location of the Project minimizes impacts to the community and the environment, while taking into account the Customer's engineering and construction needs. The Project represents the most suitable location and most appropriate solution for meeting both the Company's and 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 will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of Ohio Revised Code ("OAC") Section 4906-6-08(A)(1-6). Further, the Company has mailed (or will mail) a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (<a href="http://aeptransmission.com/ohio/">http://aeptransmission.com/ohio/</a>) which provides the public access to an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library in each political subdivision of this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

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

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

Construction of the Project is planned to commence in September 2022 with a proposed in-service date in May 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.

Exhibit 1 in Appendix A identifies the location of the Project area on a U.S. Geological Survey 1:24,000 quadrangle map. Exhibit 2 in Appendix A consists of an aerial map of the Project area.

To visit the Project from downtown Columbus, Ohio, take I-70 W/I-71 S toward Cincinnati. Take exit 101 for I-270 E. Take exit 52 to merge onto US-23 S toward Circleville. Take the US-23 S exit toward Waverly/US-50 W/Portsmouth. Continue onto US-23 for 22.2 miles. Take the exit toward American Centrifuge Facility, making a left at the exit ramp and continue for 1 mile.

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

LETTER OF NOTIFICATION FOR ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT 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.

The Project is located on three parcels; however, Parcel No. 200000186000 is owned by the Customer. The Company currently has existing right of entry agreements and options with the Customer for an exclusive and non-exclusive easement on the property for the Project.

Property Parcel No.	Agreement Needed	Easement Agreement Obtained (Yes/No)
20-057800.0000	Existing Easement	Yes
20-047703.0000	Existing Easement	Yes

## **B(9) Technical Features**

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

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

**Line Asset Names:** Waverly Sargents 138kV Line

Don Marquis Loop No. 2 138kV Line Arboles – Lucasville 138kV Line

**Asset Ownership:** Ohio Power Company, Inc.

Voltage: 138kV

Conductors: Waverly Sargents 138kV Line - (3) 636,000 CM 26/7 ACSR "Grosbeak"

(3)1,033,500 CM 54/7 ACSR "Curlew"

Don Marquis Loop No. 2 138kV Line – (6)1,033,500 CM 45/7 ACSR "Ortolan"

Arboles – Lucasville 138kV Line - (3) 795,000 CM 45/7 ACSR "Tern"

Static Wire: Waverly Sargents 138kV Line – (1) 0.646 OPGW 96 Fiber Count

(1) 7#8 Alumoweld

Don Marquis Loop No. 2 138kV Line – (2) 7#8 Alumoweld

Arboles – Lucasville 138kV Line – (1) 0.646 OPGW 96 Fiber Count

**Insulators:** Waverly Sargents 138kV Line – Polymer 25K/50K

Arboles – Lucasville 138kV Line – Polymer 25K

**ROW Width:** 100 feet

**Structure Types:** Waverly Sargents 138kV Line – (6) Double circuit davit arm

Arboles – Lucasville 138kV Line – (4) WPE Alternating Braced Post

## 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.

Not applicable. No occupied residences or institutions are located within 100 feet of the Project.

## B(9)(c) Project Costs

## The estimated capital cost of the project.

The capital cost estimate for the Project, which is comprised of applicable tangible and capital costs, is approximately \$4.8 million using a Class 4 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the Ohio Power Company's FERC formula rate (Attachment H-14 to the PJM OATT) and allocated to the AEP Zone.B(10) Social and Economic Impacts

The applicant shall describe the social and ecological impacts of the project. B(10)(a) Land Use Characteristics

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

The Project is located near Piketon in Scioto Township, Pike County, Ohio on the Customer's property. Land use and natural communities observed within the proposed Project area include maintained herbaceous ROW, upland forests, and industrial land. No places of worship, schools, institutions, hospitals, cemeteries, landmarks, or recreational areas were identified within 1,000 feet of the proposed Project area.

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

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

No properties registered as agricultural district land are located in the Project area based on an e-mail from Pike County Auditor's office on April 22, 2022 (Attachment C – Agency Correspondence).

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

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

The Company's consultant completed Cultural Resource Assessment on the Project area and coordinated the Assessment with the State Historic Preservation Office ("SHPO") on October 21, 2021. SHPO concluded on November 19, 2021 that the Project will have no effect on historic properties (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 OHCooooo4, and the Company will implement and maintain best management practices (BMPs), as outlined in the project-specific Storm Water Pollution Prevention Plan (SWPPP), to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant completed a wetland delineation and stream identification field review of the existing and planned ROW for the Project (Appendix D). A total of 8 wetlands, 16 streams, and 1 pond were delineated within the environmental survey corridor. The identified wetlands and streams that are located within or adjacent to the existing transmission line ROW are proposed to be aerially spanned by the Project or avoided all together. The Project may require Clean Water Action Section 404 permits for any temporary impacts to aquatic resources for construction access or workspaces.

According to the Federal Emergency Management (FEMA) Flood Insurance Rate Maps (FIRM), the Project is not located within the 100-year floodplain. As such, the Company will not be required to obtain floodplain permits from Pike County for the construction of any structures within these areas.

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

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

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

Coordination with Ohio Department of Natural Resource Department of Wildlife (ODNR-DOW) was initiated on March 10, 2021 to obtain Environmental Review and Ohio Natural Heritage Database records within a 1-mile buffer area around the project. Their e-mail response was received on May 6, 2021. In addition, a consultation request was submitted to the U.S. Fish and Wildlife Service (USFWS) on March 10, 2021 with a response received on March 22, 2021. A copy of the Agency Correspondence letters are provided in Appendix C.

Based on consultation from the USFWS, it was confirmed that the Project area lies within the range of two federally listed species including Indiana bat ( $Myotis\ sodalis$ ) and northern long-eared bat ( $Myotis\ septentrionalis$ ). The USFWS recommended avoiding tree removal, wherever possible. However, if clearing of trees  $\geq 3$  inches diameter breast height (dbh) cannot be avoided, the USFWS recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Tree clearing is anticipated to occur between October 1 and March 31; however, if seasonal tree cutting cannot be implemented, coordination with USFWS will occur.

Based on the consultation response from ODNR-DOW, the Project area is within range of four state-listed bat species including Indiana bat, northern long-eared bat, little brown bat (*Myotis lucifugus*), and tricolored bat (*Perimyotis subflavus*). If trees must be cut, ODNR-DOW recommends implementing seasonal tree cutting from October 1 to March 31 and conserving trees with loose, shaggy bark; with crevices, holes, or cavities; or with a dbh greater than or equal to 20 inches. If trees must be cut during summer months, ODNR-DOW recommends a mist net survey or acoustic survey to be conducted from

June 1 to August 15, prior to any cutting. Tree clearing is anticipated to occur between October 1 and March 31; however, if seasonal tree cutting cannot be implemented, coordination with USFWS will occur.

To determine potential bat hibernaculum, the Company's consultant completed a desktop hibernaculum assessment. The assessment was provided to ODNR on January 27, 2022.

ODNR-DOW also stated that the Project must not have an impact on freshwater native mussels within the Project area and per the Ohio Mussel Survey Protocol (ODNR-DOW, 2020), all Group 2, 3, and 4 streams require mussel surveys. No in-stream work is currently proposed during construction activities and will not directly impact streams crossed by the Project area. Therefore, mussel surveys are not required. The ODNR-DOW recommends no in-water work in any perennial stream from April 15 through June 30 to reduce impacts to indigenous species and their habitat. The Project is not likely to impact threatened or endangered aquatic species as there is no in-water work proposed for any stream along the Project.

The Project is within the range of timber rattlesnake (*Crotalus horridus*), eastern spadefoot toad (*Scaphiopus holbrookii*), and midland mud salamander (*Pseudotriton montanus diastictus*). ODNR states that due to the location, type of habitat within the project area, and type of work proposed, the Project is not likely to impact these species.

Based on the nature of the proposed project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated. The Company will coordinate with USFWS and ODNR regarding additional construction requirements, if required by these agencies.

## 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.

Coordination letters were submitted to the USFWS and ODNR requesting a review the Project and identification of areas of ecological concern. The USFWS response email was received on March 22, 2021 (Appendix C), indicated no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR response received on May 6, 2021 (Appendix C), indicated no known unique ecological sites, geologic features, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the Project area.

The Company's consultant prepared an Ecological Resource Inventory Report for the Project area and the surrounding vicinity of the customers' property. Wetland delineation and stream identification field surveys were completed within the Project Area during January 2021. A total of 8 wetlands, 16 streams, and 1 pond were delineated within the environmental survey area. The Ecological Resource Inventory Report contains detailed information regarding wetlands, waterbodies, wildlife habitat, and other areas of ecological concern. The Ecological Resource Inventory Report is provided in Appendix D.

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

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

LETTER OF NOTIFICATION FOR ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT LETTER OF NOTIFICATION FOR THE ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT

Appendix A Project Maps

LETTER OF NOTIFICATION FOR ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT LETTER OF NOTIFICATION FOR THE ARBOLES STATION 138-KV TRANSMISSION LINE ADJUSTMENT PROJECT

Appendix B PJM Interconnection Submittal





Need Number: AEP-2018-OH003

**Process Stage:** Submission of Supplemental Project for inclusion

in the Local Plan 05/11/2020

**Previously Presented:** 

Needs Meeting 10/26/2018 Solutions Meeting 3/10/2020

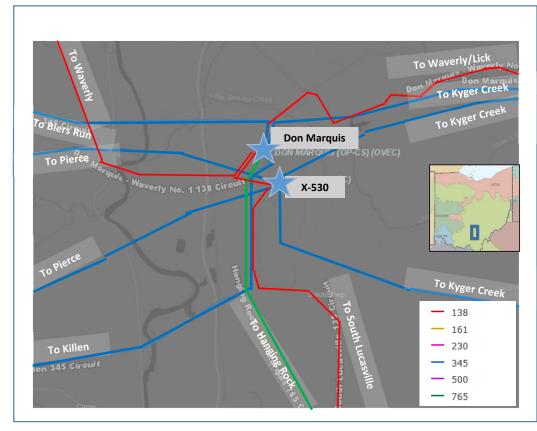
**Project Driver:**Customer Service

## **Specific Assumption Reference:**

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 8)

## **Problem Statement:**

The Ohio Valley Electric Corporation (OVEC) and the US Department of Energy (DOE) are in the process of terminating their connection at Don Marquis. The DOE has informed AEP of its intention to retire its X-530 Substation, adjacent to AEP's Don Marquis Substation and has requested a new delivery point from AEP at the same location. The new load is anticipated to peak near 38MW.





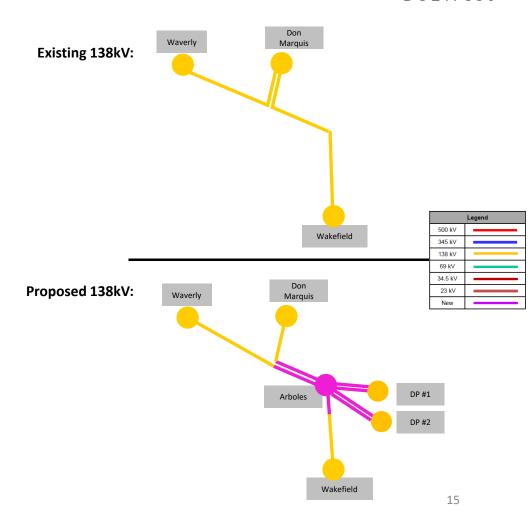
## AEP Transmission Zone M-3 Process DOE X-350

Need Number: AEP-2018-OH003

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 05/11/2020

## **Selected Solution:**

- Install a new transmission switching station (Arboles) to connect 138 kV lines to Don Marquis, Waverly, and Wakefield as well as four radial lines to serve the two new loads. The station will have 11 CBs (3000A, 40kA) in a breaker-and-a-half configuration. DOE requires 3 feeds and has requested 138 kV service. (s2213.1) Estimated Cost: \$13.4M (AEP)
- 6-wire the existing Don Marquis extension for 0.4-miles and rebuild 0.7 miles of the existing Marquis-Wakefield line as double circuit for two feeds from Waverly and Don Marquis. (s2213.2) Estimated Cost: \$1.7M (AEP)
- Construct ~0.3 miles of new line to terminate the South Lucasville circuit into Arboles. (s2213.3) Estimated Cost: \$1.3M (AEP)
- Construct two independent lines to serve the X-555 substation (DP #1). The lines will be ~0.4 miles long each. (s2213.4) Estimated Cost: \$1.7M (AEP)
- Construct two independent lines to serve the X-5001 substation (DP #2). The lines will be ~0.8 miles long each. (s2213.5) Estimated Cost: \$3.5M (AEP)





## AEP Transmission Zone M-3 Process DOE X-350

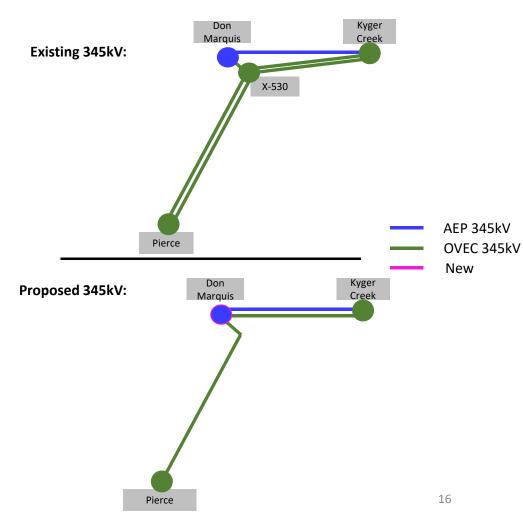
- At Don Marquis 345 kV, install 3-345kV 4000A 63kA circuit breakers to terminate the OVEC lines from Pierce and Kyger Creek. (s2213.6) Estimated Cost: \$8.8M (AEP)
- At Kyger Creek station, remove X-530 No.1 Exit and associated equipment. Update remote end relaying towards Don Marquis. (s2213.7) Estimated Cost: \$1.1M (OVEC)
- At Pierce station, remove X-530 No.1 Exit and associated equipment. Update the remote end relaying towards Don Marquis. (s2213.8) Estimated Cost: \$0.8M (OVEC)
- Six-wire 71.5 miles of the Pierce-Don Marquis line. Construct 0.13 miles of line to tie into Don Marquis station. (s2213.9) Estimated Cost: \$0.8M (OVEC)
- Six-wire 50.4 miles of the Kyger Creek-Don Marquis line. Construct 0.5 miles of line to tie into Don Marquis station. (s2213.10) Estimated Cost: \$0.9M (OVEC)
- Install intertie metering at Don Marquis 345 kV station OVEC side (s2213.11) Estimated Cost: \$0.8M (OVEC)

Total Cost AEP: \$30.4M Total Cost OVEC: \$4.4M

**Projected In-Service:** 11/01/2021 **Supplemental Project ID:** s2213

**Project Status:** Scoping

Model: N/A



# LETTER OF NOTIFICATION FOR THE ARBOLES STATION 138-KV TRANSMISSION LINE ADJUSTMENT PROJECT

Appendix C Agency Correspondence

From: Ohio, FW3

To: Otto, Ben/CIN; Grant S Stuller

Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate

Subject: [EXTERNAL] AEP - Arboles Station Transmission Lines Project in Scioto Township, Pike County, Ohio

**Date:** Monday, March 22, 2021 10:43:24 AM

Attachments: pastedImagebase640.png

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## TAILS# 03E15000-2021-TA-1017

Dear Mr. Otto,

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

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), 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 (<a href="https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf">https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf</a>). 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 <a href="mailto:mike.pettegrew@dnr.state.oh.us">mike.pettegrew@dnr.state.oh.us</a>.

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.



Patrice Ashfield Field Office Supervisor

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



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

May 6, 2021

Ben Otto 2 Crowne Point Court Suite 100 Cincinnati, Ohio 45241

Re: 21-0342; AEP Arboles Station and Associated Transmission Lines Project

**Project:** The proposed project includes the construction of five 138 kilovolt (kV) transmission lines, the removal of approximately 0.8-mile of existing 100-foot 138 kV transmission line right-of-way (ROW,) rebuilding approximately 0.4- mile of existing 100-foot 138 kV line ROW, and the construction of the Arboles substation.

**Location:** The proposed project is located in Scioto Township, Pike 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 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 entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". https://ohiodnr.gov/static/documents/wildlife/wildlifemanagement/Bat+Survey+Guidelines.pdf

If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, <a href="mailto:sarah.stankavich@dnr.state.oh">sarah.stankavich@dnr.state.oh</a>.

The DOW also recommends that a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) present within the project area. Information about how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana Bat Survey Guidelines." If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the project area, please send this information to Sarah Stankavich, <a href="mailto:sarah.stankavich@dnr.state.oh.us">sarah.stankavich@dnr.state.oh.us</a> 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species. The project is within the range of the following listed mussel species:

## Federally Endangered

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

## **State Endangered**

Ohio pigtoe (*Pleurobema cordatum*) washboard (*Megalonaias nervosa*) yellow sandshell (*Lampsilis teres*)

## State Threatened

black sandshell (*Ligumia recta*) fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*)

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

The project is within the range of the following listed fish species:

## State Endangered

bigeye shiner (*Notropis boops*) goldeye (*Hiodon alosoides*), popeye shiner (*Notropis ariommus*), shoal chub (*Macrhybopsis hyostoma*), shortnose gar (*Lepisosteus platostomus*), shovelnose sturgeon (*Scaphirhynchus platorynchus*),

## State Threatened

blue sucker (*Cycleptus elongatus*), channel darter (*Percina copelandi*), paddlefish (*Polyodon spathula*) river darter (*Percina shumardi*), Tippecanoe darter (*Etheostoma tippecanoe*)

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

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

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

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

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 U.S. 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.

 $\frac{http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community\\ \%20Contact%20List\_8\_16.pdf$ 

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <a href="mailto:Sarah.Tebbe@dnr.state.oh.us">Sarah.Tebbe@dnr.state.oh.us</a> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)



In reply, refer to 2021-PIK-52926

November 19, 2021

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

RE: Arboles 138kV Station, Scioto Township, Pike County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on October 21, 2021 regarding the proposed Arboles 138kV Station, Scioto Township, Pike 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 Cultural Resource Assessment titled *Arboles 138kV Station Pike County, Ohio (BPID P18147007)* by Seth T. Cooper (Weller & Associates, Inc. 2021).

The proposed project is located adjacent to the Portsmouth Gaseous Diffusion Plant. Three (3) archaeological surveys have already taken place within the proposed project area for the Arboles 138kV Station. No archaeological sites were previously identified and our office agrees no additional archaeological survey is needed.

A literature review was completed as part of the investigations. One (1) Determination of Eligibility (DOE) properties associated with the Portsmouth Gaseous Diffusion Plant were identified within the Area of Potential Effects (APE). Based on the information provided, the work will include the construction of a new 138kV station that is proposed on the west side of the Power Plant compound. The new construction will be compatible with surrounding construction and use; therefore, our office concurs that the work as proposed should have no effect on historic properties.

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 <a href="mailto:khorrocks@ohiohistory.org">khorrocks@ohiohistory.org</a> or Joy Williams at <a href="mailto:jwilliams@ohiohistory.org">jwilliams@ohiohistory.org</a>. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager

Resource Protection and Review

RPR Serial No: 1090585

LETTER OF NOTIFICATION FOR ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT LETTER OF NOTIFICATION FOR THE ARBOLES STATION 138-KV TRANSMISSION LINE ADJUSTMENT PROJECT

Appendix D Ecological Resources Inventory Report

# **Ecological Survey Report**

# Department of Energy Arboles Station and Associated Transmission Lines Project

Pike County, Ohio

Prepared for



December 2021



2 Crowne Point Court, Suite 100 Cincinnati, OH 45241

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- E Jacobs Open Water/Pond Data Forms
- F Representative Photographs
- G Documentation for State- and Federally Listed Species

# 1 Introduction

This report summarizes the results of the wetland and waterbody delineation surveys conducted in Pike County by Jacobs Engineering Group, Inc. (Jacobs) for AEP Ohio Power Company (AEP), Department of Energy Arboles Station and Transmission Lines Project (Project). AEP is proposing to construct the new Arboles Station along with several transmission line components:

- The construction of five 138 kilovolt (kV) transmission lines totaling 2.4 miles with portions of new 100-foot right-of-way (ROW),
- the removal of approximately 0.8-mile of existing 138 kV transmission line
- rebuilding approximately 0.4-mile of existing 138 kV transmission line
- reconductoring approximately 0.1-mile of existing 138 kV transmission line
- reconductoring six-wire existing double circuit line on two structures

The overall Project alignment is depicted on the Overview Map (Figure 1). Jacobs conducted environmental surveys in January 2021. The environmental survey corridor (ESC) width was 100 feet which included AEP's existing right-of-way (ROW) and the area proposed for the Arboles Station.

This wetland and waterbody delineation report contains the following components:

- Appendix A, Figure 1 provides an overview map of the ESC overlain on a U.S. Geological Survey (USGS) topographic map.
- Appendix A, Figures 2.1 to 2.9 show U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) mapped soil units, National Wetlands Inventory (NWI) information, National Hydrology Dataset (NHD) information, and Federal Emergency Management Agency (FEMA) floodplain information. Table 3-1 lists the soils types identified within the ESC.
- Appendix A, Figures 3.1 to 3.9 provide the location of all features mapped during the delineation by Jacobs biologists within the ESC. This includes all wetlands, data points, waterbodies, and ponds. Tables 4-1, 4-2, 4-3, 4-5, and 4-6 provide feature summary information for all wetlands, streams, and ponds delineated within the ESC.
- Appendix A, Figure 4.1 to 4.9 provide a Habitat Map for the environmental survey corridor
- U.S. Army Corps of Engineers (USACE) wetland determination field data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Primary Headwater Habitat Evaluation Index (HHEI) stream data forms for each stream identified with a drainage area less than 1 square mile are in **Appendix D**.
- Jacobs Open Water/Pond data forms for each open water feature identified within the ESC are in Appendix E.
- Representative photographs of wetlands, streams, and ponds within the ESC are in Appendix F.
- Documentation for state- and federally listed species is in Appendix G.

# 2 Background Information

The Project is located on Department of Energy (DOE) Portsmouth property located in Pike County, Ohio. The ESC includes a network of new and existing transmission line ROWs generally extending south from Don Marquis Substation (39.0237, -83.0100), north from existing X5001 Station (39.0036, -83.0104), west from Sargents Substation (39.0149, -83.0051), and east from Wakefield Mound Road (39.0178, -83.0239). The ESC is approximately 3.7 miles long, 100 feet wide, and totals approximately 74 acres (Figure 1).

Review of the USGS Piketon, Ohio 7.5-minute topographic map indicates that unnamed tributaries to Little Beaver Creek, Big Beaver Creek, and the Scioto River drain the ESC. The Project area is generally flat at around 700 feet above sea level, with a hill slope in the northern portion that reaches 800 feet above sea level and a stream valley near the center that drops to 615 feet above sea level (Figure 1).

Land use and natural habitat observed within the ESC (Figure 4, Habitat Map) includes existing roadway and railroad, substations, old field/maintained ROW, commercial lawn, upland forest, upland scrub shrub, open water, and palustrine emergent (PEM) wetland.

# 2.1 Annual Precipitation

Precipitation history in the Agricultural Applied Climate Information System (AgACIS) was reviewed prior to completing the environmental survey to determine if climatic conditions were normal at the time of the survey. Waverly, Ohio contains the nearest weather station with both historical and recent precipitation records. Precipitation recorded in the Project area indicated normal conditions in the months leading up to and during the January 2021 survey (Table 2-1). This was taken into consideration when conducting the wetland delineation.

**TABLE 2-1: Recent Precipitation Data** 

Department of Energy Arboles Station and Transmission Lines Project					
Precipitation Data <sup>1</sup> November 2020 December 2020 January 2021 To					
Normal Monthly Precipitation	1.85 - 3.53	2.01 - 3.62	1.43 - 3.15	5.29 - 10.30	
Actual Monthly Precipitation	2.00	2.35	2.51	6.86	
Monthly Climatic Condition	Normal	Normal	Normal	Normal	

Source: NOAA, 2020 <sup>1</sup>Displayed in inches

## 2.2 Drainage Basins

The ESC crosses the Lower Scioto 8-digit Hydrologic Unit Code (HUC) River Basin (05060002) and two 12-digit HUCs, as outlined in Table 2-2 (USGS, 2020).

TABLE 2-2: HUCs Crossed by the Project

Department of Energy Arboles Station and Transmission Lines Project			
HUC 12-Digit Code HUC 12-Digit Nam			
Little Beaver Creek-Big Beaver Creek	050600021303		
Big Run-Scioto River	050600021602		
Source: USGS, 2020			

## 2.3 Nationwide Permits- Ohio 401 Water Quality Certification

The USACE issued its final rule on January 13, 2021, modifying and reissuing 12 existing nationwide permits (NWPs) and issuing four entirely new NWPs, which went into effect on March 15, 2021 (Schirra, 2021). The USACE determined that the Ohio Environmental Protection Agency waived its certification for the 2021 NWPs, and therefore there is no corresponding 401 WQC permitting obligation for the 16 NWPs, including NWP 57 – Overhead Utilities. The status of Ohio's 401 WQC requirements for specific NWPs may be subject to change and should be reviewed for permitting purposes as needed.

# 3 Wetland and Waterbody Delineation

## 3.1 Desktop Review

Prior to conducting the field investigations, Jacobs reviewed the following resources to identify the potential for wetlands within the ESC:

- Aerial photo-based maps (ArcGIS Online "World Imagery" Basemap [AGOL, 2019a])
- USGS topographic maps (ArcGIS Online "USA Topo" Basemap [AGOL, 2019b])
- NRCS Web Soil Survey (NRCS, 2019)
- NWI maps (USFWS, 2021a)
- National Hydrography Dataset (NHD) (USGS, 2019)

According to the NRCS soil survey of Pike County (NRCS, 2019), nine soil map units are crossed by the ESC, all of which are listed as non-hydric (Figures 2.1 to 2.9; Table 3-1). Generally, hydric soils are those soils that indicate through their color and structure that they have experienced dominantly reducing (i.e. oxygen poor) conditions. Oxygen-poor conditions result from inundation and/or saturation by water. Partially hydric soils have both hydric and non-hydric soil components identified in the mapped soil unit.

Department of Energy Arboles Station and Transmission Lines Project				
Symbol	Soil Description	Hydric Classification	Acreage within ESC	
СоВ	Coolville silt loam, 1 to 8 percent slopes	Non-hydric	0.43	
СрС	Coolville-Blairton association, rolling	Non-hydric	0.71	
FoB	Fox loam, 2 to 6 percent slopes	Non-hydric	0.03	
Omu1B1	Omulga silt loam, 2 to 6 percent slopes	Non-hydric	12.74	
PrC	Princeton fine sandy loam, 8 to 15 percent slopes	Non-hydric	4.71	
PrD	Princeton fine sandy loam, 15 to 30 percent slopes	Non-hydric	2.04	
RdD	Rarden silt loam, 15 to 25 percent slopes	Non-hydric	1.43	
SpF	Shelocta-Latham association, steep	Non-hvdric	4.62	

**TABLE 3-1: Mapped Soil Units** 

UoA

NWI data were obtained from the USFWS for review of potential wetlands that may occur within the ESC. The NWI data (USFWS, 2021a) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al., 1979). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked. Additional detail regarding the mapped NWI wetlands within the ESC is provided in Table 4-4.

Non-hydric

The ESC does not cross any FEMA-mapped 100-year floodplains or floodways (FEMA, 2020).

Urbanland-Omulga complex, 0 to 6 percent slopes

## 3.2 Field Survey Methodology

On January 20-22, 2021, Jacobs biologists surveyed the ESC by walking the corridor and evaluating for wetlands and other waterbodies. The boundaries of each wetland and waterbody within the ESC were

40.24

delineated and recorded using handheld global positioning system (GPS) units. For streams identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland, stream, and pond data were recorded on USACE Regional Supplement wetland determination data forms, Headwater Habitat Evaluation Index (HHEI) forms, and Jacobs standard open water/pond data forms, respectively. All other land use, habitat, and other supplemental data was collected in a field notebook during the environmental survey.

## 3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to Section 404 of the Clean Water Act (CWA) and the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers' Wetlands Delineation Manual* and subsequent guidance documents (USACE, 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Eastern Mountains and Piedmont Region (Version 2.0)* (USACE, 2012). Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

Wetland quality was evaluated using the OEPA Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack, 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA, 2000). Jacobs commonly assesses each Cowardin component of a wetland complex with a separate USACE wetland determination form. However, the ORAM evaluates the larger wetland complex as a unit and as a result each wetland component within a complex will receive the same ORAM score.

## 3.2.2 Stream Assessment

Jurisdictional streams were identified as those waters that possessed a continuously defined bed and bank, OHWM indicators, and lacked a dominance of upland vegetation in the channel. Per USACE guidance, the OHWM is defined as the "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 and USEPA, 2020). Channels that parallel a roadway or railroad were identified as upland drainage features and were not considered to be jurisdictional unless they had an identifiable OHWM, were identified on the USGS topographic map, or represented a presumed relocation of a natural channel.

During the field survey, functional 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* (OEPA, 2006) and in the OEPA's Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams (OEPA, 2018). The Qualitative Habitat Evaluation Index (QHEI), is used to characterize larger streams (drainage areas greater than 1 square mile), while the Primary Headwater Habitat Evaluation Index (HHEI) is appropriate for first-order and second-order headwater streams (drainage areas less than 1 square mile).

# **4 Field Survey Results**

Jacobs' biologists identified a total of eight wetlands, 16 streams, and one pond within the ESC. The features identified within the ESC are displayed on the Delineated Features Map (Figures 3.1 to 3.9). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction.

## 4.1 Wetlands

Eight wetlands, totaling 0.35 acres, ranging in size from less than 0.01 to 0.12 acre, were delineated within the ESC. The reported wetland acreage only corresponds to areas delineated within the ESC as some wetlands extended beyond the survey boundary. All eight wetlands were identified as PEM wetlands. Summary information for each delineated wetland within the ESC is provided in Table 4-1. Completed USACE wetland and upland forms are provided in Appendix B. Representative photographs were taken of each wetland during the field survey and are provided in Appendix E.

Table 4-1: Delineated Wetland Table

Department of Energy Arboles Station and Transmission Lines Project						
Wetland ID	Location				ORAM Score.	Preliminary
	Latitude	Longitude	Habitat Type <sup>1</sup>	Area (ac) <sup>2</sup>	Category	Jurisdicational Status
Wetland AS-001	39.02384	-83.01100	PEM	<0.01	16, Category 1	Jurisdictional
Wetland AS-002	39.01650	-83.01733	PEM	0.02	21, Category 1	Jurisdictional
Wetland AS-003	39.01657	-83.01404	PEM	0.04	29, Category 1	Jurisdictional
Wetland AS-004	39.01615	-83.00785	PEM	0.02	21, Category 1	Jurisdictional
Wetland AS-005	39.01482	-83.00542	PEM	0.12	15, Category 1	Non-Jurisdictional (Isolated)
Wetland AS-006	39.01316	-83.01064	PEM	0.03	32, Category 2	Jurisdictional
Wetland AS-007	39.01080	-83.01233	PEM	0.05	22, Category 1	Jurisdictional
Wetland AS-008	39.00831	-83.01227	PEM	0.07	27, Category 1	Jurisdictional
Total: 8	Total Wetland Acreage		0.35			

<sup>&</sup>lt;sup>1</sup>Cowardin et al. 1979.

## 4.1.1 Wetland ORAM Results

A total of seven Category 1 wetlands and one Category 2 wetland was identified within the ESC. No Category 3 wetlands were identified within the ESC. Table 4-1.1 provides summary information regarding wetlands identified within the ESC; the ORAM forms are included in Appendix B.

The seven Category 1 PEM wetlands were classified as Category 1 based on ORAM scores ranging from 15 to 29. Generally, these wetlands scored low due to a variety of factors such as small size, narrow buffers with moderately high intensity of surrounding land use, weak hydrology with modifications to hydrology regime and no connectivity, substrate disturbance and habitat alteration, poor to fair habitat development, weak vegetation diversity, and low to no interspersion.

The single Category 2 PEM wetland had an ORAM score of 32. Compared to the Category 1 wetlands it was slightly larger and similar surrounding land use, stronger hydrology, and greater habitat development.

No Category 3 wetlands were identified within the ESC.

<sup>&</sup>lt;sup>2</sup>This acreage only corresponds to the area delineated within the environmental survey corridor.

**TABLE 4-1.1: Wetland Summary Table** 

Department of Energy Arboles Station and Transmission Lines Project

	C	RAM Categor	Normala a re a f	A		
Wetland Type	Category 1	Category 2	Category 3	Number of Wetlands	Acreage within ESC <sup>1</sup>	
PEM	7	1	0	8	0.35	
PSS	0	0	0	0	0	
PFO	0	0	0	0	0	
Totals	7	1	0	8	0.35	

<sup>&</sup>lt;sup>1</sup>This acreage only corresponds to the area delineated within the environmental survey area.

#### 4.1.2 NWI Field Verification

The NWI data indicate that there are mapped riverine systems present within the ESC (Figures 2.1 to 2.9; USFWS, 2021a). During Jacobs' field survey the two mapped NWI areas were identied as streams(Table 4-1.2).

**TABLE 4-1.2: Mapped National Wetland Inventory Features** 

Department of Energy Arboles Station and Transmission Lines Project

Wetland Classification Code <sup>1</sup>	NWI Description	Figure 3	Related Field Inventoried Resource	Comments
R4SBC	Riverine intermittent, streambed, seasonally flooded	3.3	Stream AS-005	NWI continues north and south of ESC. Stream channel forms within ESC; north of stream is undefined upland but sourced from a pond north of ESC
R4SBC	Riverine intermittent, streambed, seasonally flooded	3.7	Stream AS-014	NWI continues west of ESC. Stream begins at culvert within ESC

<sup>&</sup>lt;sup>1</sup>Cowardin et al., 1979.

### 4.2 Streams

A total of 16 streams, totaling 3,155 linear feet were identified within the ESC. Of the 16 streams, seven were identified as ephemeral streams, eight were intermittent streams, and one was a perennial stream. All streams were assessed using the HHEI methodology (drainage area less than 1 mi<sup>2</sup>). Table 4-2 provides detailed information on the delineated streams.

TABLE 4-2: Delineated Stream Table

Department of Energy Arboles Station and Transmission Lines Project

	Loc	ation			Average	Average		_
Stream ID	Latitude	Longitude	Flow Regime <sup>1</sup>	Linear Feet <sup>2</sup>	OHWM Width (Feet)	TOB Width (Feet)	HHEI Score	Class/Designation
Stream AS- 001	39.02317	-83.01186	Ephemeral	339	3	4	17	Modified Ephemeral
Stream AS- 002	39.02161	-83.01309	Ephemeral	128	3	4	27	Ephemeral
Stream AS- 003	39.02101	-83.01354	Intermittent	290	2	6	39	Modified Small Drainage Warmwater
Stream AS- 004	39.02045	-83.01402	Intermittent	256	2	3	17	Modified Ephemeral
Stream AS- 005	39.01772	-83.02041	Intermittent	76	1	2	46	Modified Small Drainage Warmwater
Stream AS- 006	39.01749	-83.01778	Ephemeral	184	1	2	16	Ephemeral
Stream AS- 007	39.01600	-83.01359	Ephemeral	48	1	2	17	Modified Ephemeral

TABLE 4-2: Delineated Stream Table

Department of Energy Arboles Station and Transmission Lines Project

	Loc	Location			Average	Average		
Stream ID	Latitude	Longitude	Flow Regime <sup>1</sup>	Linear Feet <sup>2</sup>	OHWM Width (Feet)	TOB Width (Feet)	HHEI Score	Class/Designation
Stream AS- 008	39.01610	-83.01006	Ephemeral	137	1	5	20	Ephemeral
Stream AS- 009	39.01608	-83.00927	Intermittent	320	3	4	39	Modified Small Drainage Warmwater
Stream AS- 010	39.01603	-83.00867	Ephemeral	184	2	4	28	Ephemeral
Stream AS- 011	39.01530	-83.00950	Intermittent	57	5	6	54	Modified Small Drainage Warmwater
Stream AS- 012	39.01398	-83.01209	Ephemeral	361	4	8	71	Spring Water
Stream AS- 013	39.01358	-83.01232	Perennial	212	15	20	77	Spring Water
Stream AS- 014	39.01135	-83.01220	Intermittent	328	8	12	76	Spring Water
Stream AS- 015	39.01108	-83.01190	Intermittent	38	4	5	61	Spring Water
Stream AS- 016	39.00898	-83.01234	Intermittent	197	2	3	29	Modified Ephemeral
Total: 16	otal: 16 Total Stream Length							

<sup>&</sup>lt;sup>1</sup>Flow regime is defined as perennial, intermittent, or ephemeral. This determination was interpreted using field observations and USGS topographic maps as appropriate.

#### 4.2.1 HHEI Results

Sixteen (16) headwater streams, totaling 3,155 linear feet within the ESC, were evaluated using the HHEI methodology. Of the 16 streams, four were classified as ephemeral streams, four as modified ephemeral streams, four as modified small drainage warmwater streams, and four as spring water streams. Table 4-2.1 provides a summary of the HHEI results for streams identified within the ESC, and completed HHEI forms are provided in Appendix C. Representative photographs (upstream, downstream, substrate) of the streams were taken during the field survey and are provided in Appendix E.

**TABLE 4-2.1: HHEI Summary Table** 

Department of E	Department of Energy Arboles Station and Transmission Lines Project									
		HHEI Class								
Flow Regime	Ephemeral	Modified Ephemeral	Small Drainage Warmwater	Modified Small Drainage Warmwater	Spring Water	Rheocrene	Number of Streams	Length (feet) within ESC		
Ephemeral	4	2	0	0	1	0	7	1,381		
Intermittent	0	2	0	4	2	0	8	1,562		
Perennial	0	0	0	0	1	0	1	212		
Total	4	4	0	4	4	0	16	3,155		

## 4.3 Ponds/Open Water

One pond with an acreage of 0.21 acres in the ESC was identified. Table 4-3 provides detailed information on the delineated pond. Jacobs' Pond/Open Water forms are provided in Appendix D and representative photographs are provided in Appendix E.

<sup>&</sup>lt;sup>2</sup>Stream length within the environmental survey area.

**TABLE 4-3: Delineated Pond Table** 

Department of Energy Arboles Station and Transmission Lines Project							
Pond ID	Loca	tion	Acreage within ESC	Dralminary Jurisdictional Status			
Pona ID	Latitude	Longitude	Acreage within ESC	Prelminary Jurisdictional Status			
Pond AS-001	39.01369	-83.01029	0.21	Jurisdictional			

### 4.4 Land Use/Habitat

In addition to the delineated wetland and waterbody features, Jacobs observed the following land use types and natural habitat within the ESC: existing roadway/railroad, gravel lot/substation pad, commercial lawn, herbaceous maintained ROW, scrub/shrub maintained ROW, upland forested, and open water. Based on Jacobs' observations, the primary land use the ESC crosses is old field/herbaceous maintained ROW. The land use types identified along with acreages within the ESC are defined in Table 4-4 and shown on Figures 4.1 to 4.9.

TABLE 4-4: Land Use and Natural Habitat Summary

Department of Ener	gy Arboles Station and Transmission Lines Project		
Land Use and Natural Habitat	Land Use Description	Approximate Acreage Within the ESC	Approximate Percentage Within the ESC
Existing Roadway/Railroad	Areas where existing public or private dirt, gravel, or paved roads are present, as well as railroad infrastructure.	7.6	9%
Gravel Lot	Areas covered by gravel where vegetation is suppressed by the presence of the gravel cover; often used for commercial/industrial/residential purposes	1.3	1.5%
Gravel Substation Pad	Areas that include an existing substation and the surrounding gravel pad.	2.2	2.6%
Commercial Lawn	Areas where commercial properties are present, including lawns and other landscaped areas associated with the commercial property. These areas contain frequently mowed grasses and forbs.	19.7	23.4%
Old Field/Herbaceous Maintained ROW	Areas that are regularly maintained and dominated by primarily upland herbaceous vegetation, such as smooth brome ( <i>Bromus inermis</i> ), tall fescue ( <i>Schedonorus arundinaceus</i> ), Queen Anne's lace ( <i>Daucus carota</i> ), tall goldenrod ( <i>Solidago altissima</i> ), common mullein ( <i>Verbascum thapsus</i> ), and other upland herbaceous vegetation. This community may have some wetland vegetation and/or upland shrub vegetation present to a lesser extent.	25.8	42.6%
Upland Scrub/Shrub Maintained ROW	Areas that are regularly maintained and dominated by primarily upland shrub vegetation, such as sumacs ( <i>Rhus</i> spp.), raspberries ( <i>Rubus</i> spp.), multiflora rose ( <i>Rosa multiflora</i> ), hawthorns ( <i>Crataegus</i> spp.), saplings of trees identified in upland forested species description, and other upland shrub species.	7.1	8.4%
Upland Forested	Areas that are dominated by primarily upland forested vegetation, such as maples ( <i>Acer</i> spp.), oaks ( <i>Quercus</i> spp.), shagbark hickory ( <i>Carya ovata</i> ), black cherry ( <i>Prunus serotina</i> ), black walnut ( <i>Juglans nigra</i> ), and other upland tree species. This community may have some wetland vegetation and/or upland vegetation in the shrub or herbaceous strata, but the predominant vegetation is comprised of upland tree species.	10.2	12%

### TABLE 4-4: Land Use and Natural Habitat Summary

Department of Energy Arboles Station and Transmission Lines Project							
Land Use and Natural Habitat	Land Use Description	Approximate Acreage Within the ESC	Approximate Percentage Within the ESC				
Open Water	Impounded open water features typically used for stormwater retention, cattle ponds, aesthetic or recreational purposes, or a combination of those purposes.	0.4	0.4%				
	Totals:	74.3	100%				

# **5 Protected Species**

Jacobs reviewed the USFWS Ohio Ecological Services Office website (USFWS, 2018) for information concerning which federally listed species were known to occur, or to potentially occur, in Pike County, Ohio. In addition, Jacobs was provided with Ohio Natural Heritage Database data from the Ohio Department of Natural Resources (ODNR) Division of Wildlife (DOW), on known occurrences of federally listed and state-listed species within a one-mile radius of the Project area.

## 5.1 Federal and State Agency Coordination Summary

Table 5-1 includes the federally listed species identified by the USFWS as occurring or potentially occurring in Pike County, Ohio along with other habitat observations and information on recorded locations, if applicable. Table 5-1 also outlines state-listed species identified by the ODNR-DOW (ODNR, 2021) as being located within a one-mile radius of the Project area. Species-specific surveys were not conducted for the federally listed or state-listed species.

TABLE 5-1: Federally Listed and State-Listed Threatened and Endangered Species Impact Assessment

Department of Energy Arboles Station and Transmission Lines Project

Common Name (Scientific Name)	Federal Status	State Status	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area	ODNR Recommendation
Indiana bat (Myotis sodalis)	Endangered	Endangered	Hibernates in caves and mines; Maternity and foraging habitat = small stream corridors with well-developed riparian woods and upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).
Northern long- eared bat (Myotis septentrionalis)	Threatened	Threatened	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).
Little brown bat (Myotis lucifugus)	NA	Endangered	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).

TABLE 5-1: Federally Listed and State-Listed Threatened and Endangered Species Impact Assessment

Department of Energy Arboles Station and Transmission Lines Project

Common Name (Scientific Name)	Federal Status	State Status	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area	ODNR Recommendation
Tricolored bat (Perimyotis subflavus)	NA	Endangered	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).
Several Mussel Species	NA	Endangered, Threatened	Streams	No records returned	Not likely	Not likely to impact this species.
Several Fish Species	NA	Endangered, Threatened	Perennial Streams	No records returned	Not likely	No in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat.
Timber rattlesnake (Crotalus horridus)	Species of Concern	Endangered	Woodland species. In addition to using wooded areas, also utilizes sunlit gaps in the canopy for basking and deep rock crevices (den sites) for overwintering.	No records returned	Not likely	Not likely to impact this species.
Eastern spadefoot toad (Scaphiopus holbrookii)	NA	Endangered	Found in areas of sandy soils associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions.	No records returned	Not Likely	Not likely to impact this species.
Midland mud salamander (Pseudotriton montanus diastictus)	NA	Threatened	This species is typically found in streams, seeps and swamps and underneath logs, rocks and leaves	No records returned	Not likely	Not likely to impact this species.

# **5.2 Protected Species Summary**

Coordination with ODNR-DOW was initiated to obtain Environmental Review and Ohio Natural Heritage Database records within a 1-mile buffer area around the project (ODNR-DOW, 2021). Current information on the species provided through USFWS (USFWS, 2021b) and the ODNR-DOW Ohio Natural Heritage Database is provided in Table 5-1 (above).

A consultation request was submitted to the USFWS on March 10, 2021 and their response was received on March 22, 2021. The USFWS confirmed that the project area lies within the range of two federally listed species, Indiana bat and northern long-eared bat (USFWS, 2021b; Table 5-1).

A consultation request was submitted to the ODNR on March 10, 2021 and their response was received on May 6, 2021. The Project area is within range of four state-listed bat species. If trees must be cut, ODNR-DOW recommends only cutting from October 1 to March 31 and conserving trees with loose, shaggy bark; with crevices, holes, or cavities; or with a diameter at breast height (DBH) greater than or equal to 20 inches. If trees must be cut during summer months, ODNR-DOW recommends a mist net survey or acoustic survey to be conducted from June 1 to August 15, prior to any cutting. 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 area.

During the field survey conducted by Jacobs in January 2021, no evidence of potential hibernaculum consisting of caves, rock outcrops, mines, cliffs, or karst features were observed. In addition to the field survey, USFWS and ODNR did not identify any known bat hibernaculum or records of federal or state listed bats within a one-mile radius of the Project.

Jacobs' biologists also followed methodology provided in Appendix H of the USFWS "Range-wide Indiana Bat Survey Guidelines" document to conduct a desktop hibernaculum assessment. Review of the USGS Piketon, Ohio 7.5-minute topographic map identified several mine features within 3 miles of the Project area that are labeled as sand and gravel pits. According the ODNR Division of Mineral Resources data, several active and inactive surface mines are located within 3 miles of the Project area. These mines were identified as sand and gravel surface mines located west of U.S. Route 23 near the Scioto River. No active surface mines are located within 0.25 miles of the Project. One inactive surface mine (G & M Gravel & Stone Co., Permit ID IM-0688) is located approximately 0.15 miles from the western most portion of the Project. According to the ODNR Mines of Ohio Viewer, this inactive surface mine has a Mine Operation Status of "Released" and a Date of Map of 7/29/1982. Aerial imagery indicates that the location of this former surface mine currently consists of active agricultural row crop and old field land use types. Due to the current land use (old field and agricultural land) of this inactive surface mine, it is unlikely that a potential hibernaculum exists at this site. Based on the desktop habitat review, it does not appear likely that potential hibernaculum exists within 0.25-mile of the Project area.

According to ODNR, the Project must not have an impact on freshwater native mussels within the Project area and per the Ohio Mussel Survey Protocol (ODNR-DOW, 2020), all Group 2, 3, and 4 streams require mussel surveys. No in-stream work is currently proposed during construction activities and will not directly impact streams crossed by the Project area. Therefore, mussel surveys will not likely be required. The ODNR-DOW recommends no in-water work in any perennial stream from April 15 through June 30 to reduce impacts to indigenous species and their habitat. Because no in-water work is proposed in any perennial stream within the Project area, the Project is not likely to impact threatened or endangered aquatic species.

The Project is within the range of timber rattlesnake, eastern spadefoot toad, and midland mud salamander. ODNR states that due to the location, type of habitat within the project area, and type of work proposed, the Project is not likely to impact these species.

# **6 Conclusion**

This report presents the background research, field surveys results, and threatened and endangered species consultation conducted for the Arboles Station and Associated Transmission Lines Project located in Pike County, Ohio.

During the January 2021 field survey, eight wetlands, 16 streams, and one pond were delineated within the ESC. The eight wetlands, totaling 0.35 acres within the ESC, were all PEM wetlands. Of the eight wetlands, seven were identified as Category 1 wetlands and one was a Category 2 wetland. No Category 3 wetlands were identified within the ESC.

The 16 streams, totaling 3,155 linear feet, identified within the ESC include seven ephemeral streams, eight intermittent streams, and one perennial stream. All streams were were assessed using the HHEI methodology (drainage area less than 1 mi²). While the jurisdictional status of these identified features is provided with tables of this report, the USACE and OEPA will provide the final determination of hydrologic connectivity and jurisdiction. Coordination with the USACE and OEPA is recommended prior to the submittal of any permit or construction activities, dependent on the planned impacts to wetlands and waterbodies.

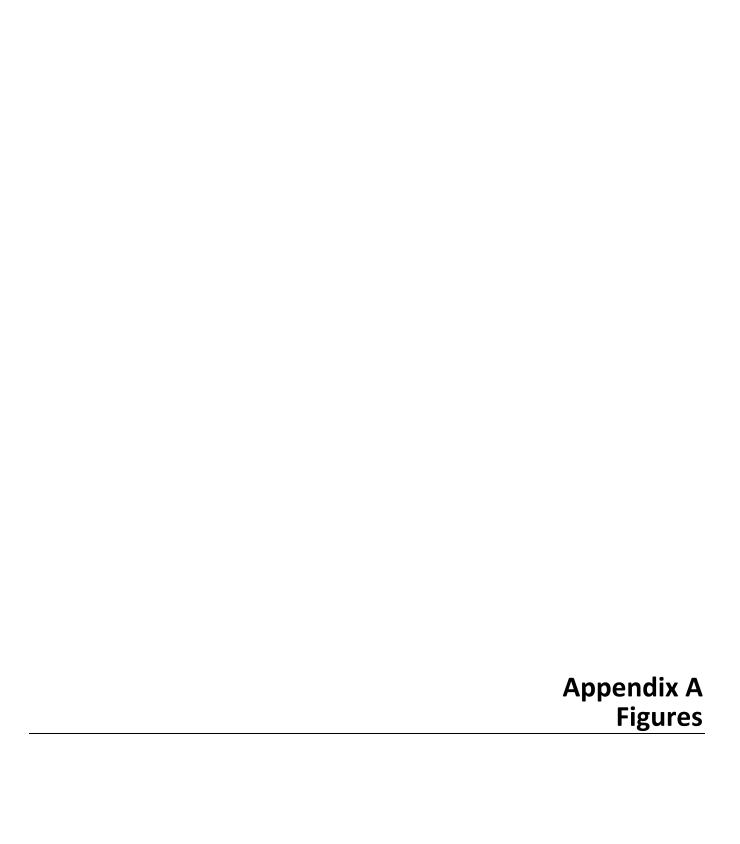
The results of the environmental survey described in this report conducted by Jacobs are limited to what was identified within the ESC, as depicted in Figures 3.1 to 3.9. The information contained in this wetland delineation report is for a study area that may be much larger than the actual Project limits-of-disturbance for construction; therefore, lengths and acreages listed in this report may likely not constitute the actual impacts of the Project at the time of construction. If permits are determined to be necessary, actual impacted lengths and/or acreages will be submitted in subsequent permit applications.

The wetland and waterbodies delineation field survey results presented within this report apply to the site conditions at the time of our assessment. Changes within the environmental survey area that may occur with time due to natural processes or human impacts at the Project site or on adjacent properties, could invalidate the findings of this report, especially if Jacobs is unaware and has not had the opportunity to revisit the Project survey area. Additionally, changes in applicable standards and regulations may also occur as a result of legislation or the expansion of knowledge over time. Therefore, the findings of this wetland and waterbodies delineation report may be invalidated, wholly or in part, by changes that are beyond the control of Jacobs.

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March 04, 2021

Feet

Dath: 1/dc1/cn1/CTCDmai/A/AED/Arholes/Mane/Denort/W/DD/W/DD Eighree Droansy

Appendix B U.S. Army Corps of Engineers (USACE) Wetland Determination Forms – Eastern Mountains & Piedmont Region

# Wetland AS-001

Project/Site: Arboles Station a	and Transmission I	_ines Proj	ject City/C	ounty: Pike County		Sampling	Date: 01/20/2021
Applicant/Owner: AEP			Oity/C	ounty.	State: OH	Samplir	ng Point: W-BAO-012021-01
Investigator(s): BAO, JFW			Soction	on, Township, Range: S	State 6 T 4N R 22W	Gampiii	ig i oliit.
Landform (hillslope, terrace, et	c \· Toeslope						Slone (%): 0
Subregion (LRR or MLRA): <u>LF</u>	e.). <u></u>	Lat: 39	Local reli	Long.	-83	01097	
Soil Map Unit Name: CoB: Co	olville silt loam. 1 t	o 8 perce	nt slopes	Long	NIMI classifi	cation: N/A	Datum
Are climatic / hydrologic condit							
Are Vegetation, Soil	_						os X No
Are Vegetation , Soil,					explain any answe		
Are vegetation , Soil	_, or Hydrolog	y	naturally problems	auc? (II needed,	explain any answe	315 III Reillai	K5.)
SUMMARY OF FINDING	GS – Attach s	ite map	showing sam	pling point location	ons, transects	s, importa	ant features, etc.
Hydrophytic Vegetation Prese	ent? Yes_	X 1	No	Is the Sampled Area			
Hydric Soil Present?			No	within a Wetland?	YesX	No	
Wetland Hydrology Present?	Yes_	X 1	No				
Remarks:							
PEM wetland next to substation	on, almost entirely	outside o	f survey corridor.				
HYDROLOGY							
Wetland Hydrology Indicato	ors:				Secondary Indic	ators (minim	um of two required)
Primary Indicators (minimum	of one is required:	check all	l that apply)		Surface Soi	l Cracks (B6	)
Surface Water (A1)		☐ Tru	ue Aquatic Plants (	B14)	☐ Sparsely Ve	getated Cor	ncave Surface (B8)
High Water Table (A2)		□ ну	drogen Sulfide Od	or (C1)	☐ Drainage Pa	-	
Saturation (A3)			-	es on Living Roots (C3)	Moss Trim L	ines (B16)	
Water Marks (B1)		☐ Pre	esence of Reduced	I Iron (C4)	Dry-Season	Water Table	e (C2)
Sediment Deposits (B2)		Re	cent Iron Reductio	n in Tilled Soils (C6)	Crayfish Bu	rrows (C8)	
Drift Deposits (B3)		Thi	in Muck Surface (C	27)	✓ Saturation \	/isible on Ae	rial Imagery (C9)
Algal Mat or Crust (B4)		U Otł	her (Explain in Rer	narks)	Stunted or S	Stressed Pla	nts (D1)
Iron Deposits (B5)					Geomorphic	Position (D	2)
Inundation Visible on Ae	• • • •				Shallow Aqu		
Water-Stained Leaves (E	39)				Microtopogr		(D4)
Aquatic Fauna (B13)						I Test (D5)	
Field Observations:	V						
Surface Water Present?	·		epth (inches):				
Water Table Present?	·		epth (inches):				v
Saturation Present?	Yes No	<u>X</u> De	epth (inches):	Wetland	Hydrology Prese	nt? Yes_	X No
(includes capillary fringe)  Describe Recorded Data (stre	 eam gauge, monito	oring well,	, aerial photos, pre	vious inspections), if ava	ailable:		
,	0 0 7	,	, ,	, ,,			
Remarks:							

EGETATION (Five Stra	ıta) – Use	scientific na	ames of p	olants.		Sampling Point: W-BAO-012021-01
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 1 (B)
4						Brown to f Dominion t Consider
5						Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of tot	tal cover: 0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20,0 c.	10101 CC 10		OBL species x 1 = 80
1						FACW species 0 x 2 = 0
2						FAC species5 x 3 =15
3						FACU species15
						UPL species 0 x 5 = 0
4 5						Column Totals:100 (A)155 (B)
5 6						Prevalence Index = B/A = 1.55
0				= Total Cove		Hydrophytic Vegetation Indicators:
	<b>-20</b> / - <b>£</b> 1-1					X 1 - Rapid Test for Hydrophytic Vegetation
· - · · · · · · · · · · ·		tal cover: 0	20% or	total cover:	<u> </u>	X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1						
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			=	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of tot	tal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Typha angustifolia			80	Y	_OBL	(7.6 cm) or larger in diameter at breast height (DBH).
2. Andropogon virginicus			10	N	FACU	Sapling – Woody plants, excluding woody vines,
3. Setaria pumila			5	N	_FAC	approximately 20 ft (6 m) or more in height and less
4. Erigeron annuus			5	N	FACU	than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7				<u> </u>		Herb – All herbaceous (non-woody) plants, including
8				<u> </u>		herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						, ,
11						Woody vine – All woody vines, regardless of height.
			100 :	= Total Cove	er	
	50% of tot	tal cover: 50				
Woody Vine Stratum (Plot siz			20 /0 0.	luiai covci.		
、		/				
1						
2						
3						
4						
5						Hydrophytic
			:	= Total Cove	ər	Vegetation Present? Yes X No
	50% of tot	tal cover:0	20% of	total cover:	0	Present? Yes X No
Remarks: (Include photo num	bers here or	on a separate s	heet.)			

Sampling Point: W-BAO-012021-01

/:\	h <u>Matrix</u> les) <u>Color (moist) %</u>	0/		x Features		Loc <sup>2</sup>	T-1.41	Damada
(inches)			Color (moist)	<u>%</u> 10	Type <sup>1</sup>		Texture	Remarks
<u>0 — 10</u>	2.5Y 5/1	90	10YR 5/8			PL	Clay	
<u> </u>								
_								
_								
vpe: C=Cor	ncentration, D=Depl	etion. RM=F	Reduced Matrix. MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.
dric Soil In		,	,					ators for Problematic Hydric Soils <sup>3</sup> :
] Histosol (	A1)		☐ Dark Surface	(S7)			□ 2	cm Muck (A10) <b>(MLRA 147)</b>
	pedon (A2)		Polyvalue Be		e (S8) <b>(N</b>	ILRA 147,		Coast Prairie Redox (A16)
Black Hist			Thin Dark Su				<i>,</i>	(MLRA 147, 148)
	Sulfide (A4)		Loamy Gleye			•	<u>□</u> P	Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		✓ Depleted Mat	trix (F3)	,			(MLRA 136, 147)
2 cm Muc	k (A10) (LRR N)		Redox Dark S	Surface (F	3)		<u>□</u> ∨	ery Shallow Dark Surface (TF12)
Depleted	Below Dark Surface	(A11)	Depleted Dar	k Surface	(F7)		.□ c	Other (Explain in Remarks)
	k Surface (A12)		Redox Depre	ssions (F8	5)			
	ıcky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangane	ese Masse	s (F12) <b>(</b> I	_RR N,		
	147, 148)		MLRA 130					
_	eyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
Sandy Re			Piedmont Flo					etland hydrology must be present,
Stripped I	Matrix (S6)		Red Parent N	//aterial (F2	21) <b>(MLR</b>	A 127, 147	<u>')</u> un	less disturbed or problematic.
							1	
	ayer (if observed):	No						
	ayer (if observed):	No						
estrictive La		No	<u> </u>				Hydric Soil	Present? Yes X No
Type: Depth (inch		No	<u> </u>				Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
Restrictive La Type: Depth (inch Remarks:				2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		illow digging past 1	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 12	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
Restrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
Restrictive La Type: Depth (inchemarks:	nes):			2"			Hydric Soil	Present? Yes X No
Restrictive La Type: Depth (inch Remarks:	nes):		llow digging past 1:	2"			Hydric Soil	Present? Yes X No
Restrictive La Type: Depth (inch Remarks:	nes):		illow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		illow digging past 1:	2"			Hydric Soil	Present? Yes X No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1	2"			Hydric Soil	Present? Yes X No No
estrictive La Type: Depth (inchemarks:	nes):		llow digging past 1	2"			Hydric Soil	Present? Yes X No No

Project/Site: Arboles Station	and Transm	ission L	ines Proiect	City/	County: Pike Co	ounty		Sampling	Date: 01/20	/2021
Applicant/Owner: AEP				City/(	County.		State: OH	_ Sampling Sampli	ng Point: U-BA	O-012021-01
Investigator(s): BAO, JFW				Cont	ion, Township, R			Sampii	ng Foint	
Landform (hillslope, terrace, e	to V. Toeslor	ne							Clana (0/)	. 0
				Locai re	eller (concave, co Lo	onvex, none	e): <u>1 lat</u>	01112	Slope (%)	: <u>U</u> 28.84
Subregion (LRR or MLRA): <u>L</u> Soil Map Unit Name: <u>CoB</u> : Co										<del>10 04</del>
									1	
Are climatic / hydrologic cond									. v	
Are Vegetation, Soil _							Circumstances"			No
Are Vegetation , Soil _	_, or Hy	/drology	natu	rally problem	natic? (If r	needed, ex	kplain any answ	ers in Rema	arks.)	
SUMMARY OF FINDIN	IGS – Atta	ach si	te map sh	owing sar	mpling point	locatio	ns, transect	s, import	ant featur	es, etc.
Hydrophytic Vegetation Pres	sent?	Yes _	No	Х	Is the Sample	ed Area			~	
Hydric Soil Present?		Yes _	No_	X	within a Wetla	and?	Yes	No	^	
Wetland Hydrology Present	?	Yes _	No _	X						
Remarks:					•					
Upland point associated with	volum vie		7 5710 01202	. Ory. Opiano	a cons appeare o				oment impact	
HYDROLOGY										
Wetland Hydrology Indica	lors:						Secondary Indic	ators (minin	num of two re	quired)
Primary Indicators (minimum	<u>າ of one is re</u>	quired;	check all that	apply)			Surface So	l Cracks (Be	6)	
Surface Water (A1)			True Ac	quatic Plants	(B14)		Sparsely Ve	egetated Co	ncave Surfac	e (B8)
High Water Table (A2)			Hydroge	en Sulfide Od	dor (C1)		Drainage P	atterns (B10	))	
Saturation (A3)			Oxidize	d Rhizospher	res on Living Ro	ots (C3)	Moss Trim	_ines (B16)		
Water Marks (B1)			Present	ce of Reduce	ed Iron (C4)		Dry-Seasor	Water Tab	le (C2)	
Sediment Deposits (B2)	)		Recent	Iron Reduction	on in Tilled Soils	(C6)	Crayfish Bu	rrows (C8)		
Drift Deposits (B3)			Thin Mu	uck Surface (	(C7)	<u>_</u>	Saturation \	/isible on A	erial Imagery	(C9)
Algal Mat or Crust (B4)			Other (I	Explain in Re	emarks)		Stunted or	Stressed Pla	ants (D1)	
Iron Deposits (B5)							Geomorphi	c Position (D	02)	
Inundation Visible on A	erial Imagery	(B7)					Shallow Aq	uitard (D3)		
Water-Stained Leaves (	B9)						Microtopog	aphic Relie	f (D4)	
Aquatic Fauna (B13)						J	FAC-Neutra	l Test (D5)		
Field Observations:										
Surface Water Present?	Yes	No _	X Depth	(inches):						
Water Table Present?	Yes	No _	X Depth	(inches):						
Saturation Present?	Yes	No _	X Depth	(inches):	v	Vetland Hy	ydrology Prese	nt? Yes_	No	X
(includes capillary fringe)				-1 -1 -4		'£'!	-1-1			
Describe Recorded Data (st	ream gauge,	, monito	ring weil, aeri	ai pnotos, pre	evious inspectior	ns), it avaii	able:			
Remarks:										
1										

EGETATION (Five Strat	a) – Use	scientific na	ımes of p	olants.		Sampling Point: U-BAO-012021-01
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2						Total Number of Dominant
3						Species Across All Strata:1 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 0.00 (A/B)
6						Burn Lance Index confidences.
			0 =	= Total Cove	er	Prevalence Index worksheet:
	50% of tota	al cover: 0	_ 20% of	total cover:	0	
Sapling Stratum (Plot size:						OBL species 0 x 1 = 0 FACW species 0 x 2 = 0
1						
2						1 AO 3pcolo3 X 0
3						1 A00 species X 4 =
4						UPL species25 x 5 =125 Column Totals: 105 (A) 445 (B)
5						Column Totals:105 (A)445 (B)
6						Prevalence Index = B/A = 4.24
			·	= Total Cove	<u></u>	Hydrophytic Vegetation Indicators:
	50% of tota	al cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		الان الدن الدن الدن الدن الدن الدن الدن	20 /0 0.	lulai cuvci.		2 - Dominance Test is >50%
,		/				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. <u></u> 5						
5 6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
0			<u> </u>	= Total Cove		be present, unless disturbed or problematic.
		. 0				Definitions of Five Vegetation Strata:
		al cover: 0	20% or	total cover:_	<u> </u>	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	.)				approximately 20 ft (6 m) or more in height and 3 in.
Setaria faberi     Selidase canadancia				N	UPL_	(7.6 cm) or larger in diameter at breast height (DBH).
				N	FACU	Sapling – Woody plants, excluding woody vines,
3. Andropogon virginicus			5	N	FACU	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Daucus carota			5	N	UPL	
5. Erigeron annuus			15	N	FACU	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6. Schedonorus arundinaceus				<u> </u>	<u>FACU</u>	approximatery 5 to 20 it (1 to 6 iii) iii neight.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						**************************************
			105 =	= Total Cove	er	
	50% of tota	al cover: 53	20% of	total cover:	21	
Woody Vine Stratum (Plot size:	:30'	)				
1						
2						
3						
4						
5						Hadasahadi.
			0 =	= Total Cove	er	Hydrophytic Vegetation
	50% of tot:	al cover: 0	20% of	total cover	0	Present? Yes NoX
Remarks: (Include photo numb				lotal cover.		
Tremarks. (include prioto numb	ers nere or t	Jii a separate si	ieet.)			

Sampling Point: U-BAO-012021-01

Profile Descr	iption: (Describe t	o the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicators.)	
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	<u></u> %	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks	
0 <b>—</b> 10	10YR 6/3	70	10YR 7/8	30	С	M	Silty clay		
							-	-	
			_						_
_									
							-		
<sup>1</sup> Type: C=Co	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	=Masked \$	Sand Gra	ains.	<sup>2</sup> Location: Pl	L=Pore Lining, M=Matrix.	
Hydric Soil Ir								ntors for Problematic Hyd	lric Soils³:
Histosol (	A1)		Dark Surface	(S7)			□ 2	cm Muck (A10) (MLRA 14	7)
	pedon (A2)		Polyvalue Bel		e (S8) <b>(N</b>	ILRA 147,		oast Prairie Redox (A16)	,
Black His			Thin Dark Sur					(MLRA 147, 148)	
	Sulfide (A4)		Loamy Gleyed				☐ Pi	iedmont Floodplain Soils (F	<del>-</del> 19)
Stratified	Layers (A5)		Depleted Mate	ix (F3)				(MLRA 136, 147)	
2 cm Mud	ck (A10) <b>(LRR N)</b>		Redox Dark S	urface (F6	6)		<u></u> ∨₀	ery Shallow Dark Surface (	(TF12)
Depleted	Below Dark Surface	(A11)	Depleted Dark	ς Surface (	(F7)		<u> </u>	ther (Explain in Remarks)	
	rk Surface (A12)		Redox Depres						
	ucky Mineral (S1) <b>(L</b> l	RR N,	☐ Iron-Mangane		s (F12) <b>(</b>	LRR N,			
	147, 148)		MLRA 136				0		
	eyed Matrix (S4)		Umbric Surface					icators of hydrophytic vege	
Sandy Re			Piedmont Floo					tland hydrology must be pr	
	Matrix (S6)		Red Parent M	aterial (F2	1) <b>(MLR</b>	A 127, 147	') unl	ess disturbed or problemat	tic.
Restrictive L	ayer (if observed):	No							
Type:			<del>_</del>						
Depth (incl	hes):		_				Hydric Soil	Present? Yes	No <u>X</u>
Remarks:							I		
US Departmen	nt of Energy property	does not all	ow digging past 12	."					

# Wetland AS-002

Project/Site: Arboles Station a	ınd Transmi	ssion L	ines P	roject City/0	County. Pike	County		Sampling	Date: 01/20/202	21
Applicant/Owner: AEP				Oity/			State: OH	Samplir	ng Point: W-BAO-01	12021-02
Investigator(s): BAO, JFW				Section Section			T 4N R 22W	σαπριπ	.g . o	
Landform (hillslope, terrace, etc.	 c )⋅ Swale								Slope (%)· 1	
Subregion (LRR or MLRA): <u>LR</u>										
Soil Map Unit Name: Omu1B1										
Are climatic / hydrologic conditi										
Are Vegetation, Soil									es X No	
Are Vegetation , Soil							cplain any answe			
, con	_, Oi 11y	urology	-	natarany problem	iatio.	ii nocaca, cz	cpiant arry arrows	no in recinal	1.0.)	
SUMMARY OF FINDING	GS – Atta	ach si	te ma	ap showing sar	npling poi	nt location	ns, transects	s, importa	ant features,	etc.
				•	<u> </u>					
Hydrophytic Vegetation Prese	ent?			No	Is the Sam		X			
Hydric Soil Present?				No	within a W	etland?	Yes	No		
Wetland Hydrology Present?		Yes _	X	No						
Remarks:										
PEM wetland within t-line RO\	V; tire ruts r	unning	throug	jh						
HYDROLOGY										LI CONTRACTOR OF THE PROPERTY
Wetland Hydrology Indicate							Secondary Indic	ators (minim	um of two requir	red)
Primary Indicators (minimum		auired:	chack	all that apply)		<u>.</u> I	Surface Soi	•		<u>ieuj</u>
	or one is re	<u>quireu,</u>			/D14\		_	-	<i>)</i> ncave Surface (E	001
Surface Water (A1)  High Water Table (A2)			_	True Aquatic Plants						00)
<ul><li>✓ High Water Table (A2)</li><li>✓ Saturation (A3)</li></ul>				Hydrogen Sulfide Od Oxidized Rhizosphe		1	=		)	
\ <b>=</b>					_	10018 (C3)	Moss Trim L		o (C2)	
Water Marks (B1)			$\overline{}$	Presence of Reduce	, ,	ila (CC)	Dry-Season		3 (C2)	
Sediment Deposits (B2)				Recent Iron Reduction Fhin Muck Surface (		olis (Co) <u>i</u>	Crayfish Bu		rial Imagery (C9	1)
Drift Deposits (B3)					-	_	_			")
Algal Mat or Crust (B4)			ш	Other (Explain in Re	marks)		Stunted or S			
Iron Deposits (B5) Inundation Visible on Aer	rial Imaganı	(D7)				1	Geomorphic	,	2)	
		(67)				1	Shallow Aqu Microtopogr		(D4)	
Water-Stained Leaves (B	,9)					ı İ	FAC-Neutra		(D4)	
Aquatic Fauna (B13)						<u>,</u>	FAC-Neulla			
Field Observations:	V	N	Y	Double (in the ca)						
Surface Water Present?				Depth (inches):	6.00					
Water Table Present?				Depth (inches):					٧	
Saturation Present? (includes capillary fringe)	Yes^_	No _		Depth (inches):	6.00	Wetland Hy	ydrology Prese	nt? Yes_	_X No	
Describe Recorded Data (stre	eam gauge,	monito	ring we	ell, aerial photos, pre	evious inspect	tions), if avail	able:			
Remarks:										

EGETATION (Five Strata	a) – Use	scientific na	mes of p	olants.		Sampling Point: W-BAO-012021-02
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		-		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2						Total Number of Dominant
3						Species Across All Strata: 3 (B)
4						
5						Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tota	al cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:				10101 55		OBL species 5 x 1 = 5
1						FACW species 80 x 2 = 160
2						FAC species 40 x 3 = 120
3						FACU species 0 x 4 = 0
4						UPL species0 x 5 =0
5						Column Totals:125 (A)285 (B)
6						Prevalence Index = B/A = 2.28
·				= Total Cove	 er	Hydrophytic Vegetation Indicators:
	50% of tota	al cover: 0	20% of	total cover	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		۱ ۱ ۱ ۱ ۱ ۱	20 /0 0.	lotai 60 voi		X 2 - Dominance Test is >50%
,		/				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5						
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			=	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of tota	al cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Dichanthelium clandestinum			40	<u> </u>	FAC_	(7.6 cm) or larger in diameter at breast height (DBH).
2. Juncus effusus			40	Y	FACW	Sapling – Woody plants, excluding woody vines,
3. Leersia virginica			30	Y	FACW	approximately 20 ft (6 m) or more in height and less
4. Scirpus cyperinus			10	N	FACW	than 3 in. (7.6 cm) DBH.
5. Persicaria sagittata			5	N	OBL_	Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						<b>Herb</b> – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						, ,
11						Woody vine – All woody vines, regardless of height.
			125 =	= Total Cove	ər	
	50% of tota	al cover: 63	20% of	total cover:	25	
Woody Vine Stratum (Plot size:			_			
1						
2						
3						
4						
5.						
o			0 =	= Total Cove		Hydrophytic
	-00/ -fi-t					Vegetation Present?  Yes X No
		al cover: 0		total cover:	0	
Remarks: (Include photo number	ers here or	on a separate sh	neet.)			

Sampling Point: W-BAO-012021-02

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicators.)
Depth	Matrix			Features	1			
(inches)	Color (moist)		Color (moist)	<u>%</u> _	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
<u>0 — 10</u>	10YR 4/2	90	10YR 4/6	10	C	PL	Silty clay	
_								
_								
<sup>1</sup> Type: C=Co	ncentration, D=Depl	etion, RM=R	educed Matrix, MS	=Masked \$	Sand Gra	ains.	<sup>2</sup> Location: PL	_=Pore Lining, M=Matrix.
Hydric Soil I								tors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		■ Dark Surface	(S7)			<u> </u>	cm Muck (A10) <b>(MLRA 147)</b>
Histic Ep	ipedon (A2)		Polyvalue Bel	ow Surface	e (S8) <b>(N</b>	ILRA 147,	148) 🔲 C	oast Prairie Redox (A16)
Black His	stic (A3)		Thin Dark Sur	face (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed		2)		L Pi	edmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Mate					(MLRA 136, 147)
	ck (A10) <b>(LRR N)</b>	(8.4.4)	Redox Dark S	`	,			ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dark	,	,		<u> </u>	ther (Explain in Remarks)
	rk Surface (A12) ucky Mineral (S1) <b>(L</b>	DD N	☐ Redox Depres ☐ Iron-Mangane			I DD NI		
	ucky Milleral (31) <b>(L</b> . 147, 148)	KK IV,	MLRA 136		5 (F 12) <b>(</b>	LKK N,		
	leyed Matrix (S4)		☐ Umbric Surface		/II RA 13	6. 122)	<sup>3</sup> Indi	cators of hydrophytic vegetation and
	edox (S5)		Piedmont Flor					tland hydrology must be present,
	Matrix (S6)		Red Parent M					ess disturbed or problematic.
	ayer (if observed):	No		•	, .			·
Type:								
• • • • • • • • • • • • • • • • • • • •	hes):		_				Hydric Soil	Present? Yes X No No
Remarks:			_				1.7	
	nt of Energy property	does not all	ow digging past 12	,"				
			333 [					

# Upland AS-002

Project/Site: Arboles Station a	and Transmission	Lines Project	City/County	Pike County	Sampl	ing Date: 01/20/2021
Applicant/Owner: AEP		-	Only/ County.		State: OH San	npling Point: U-BAO-012021-02
Investigator(s): BAO, JFW				vnship, Range: S 6		.p.ii.ig i oiii.i
Landform (hillslope, terrace, et	c) Hillside					Slone (%)· 1
Subregion (LRR or MLRA): <u>LF</u>	8R N	Lat: 39.0165	<u> </u>	Long:	-83.01728	Datum: WGS 84
Soil Map Unit Name: Omu1B1						
Are climatic / hydrologic condit						
Are Vegetation, Soil	-		-		Circumstances" present?	
Are Vegetation , Soil,					xplain any answers in Re	
, com _	<u>_</u> , c , a. c. c,		, p	(	.p.a ay aoo.o.	
<b>SUMMARY OF FINDIN</b>	GS - Attach	site map sho	wing sampling	g point location	ns, transects, impo	ortant features, etc.
		<del>_</del>			<u> </u>	
Hydrophytic Vegetation Pres		No	X Is the	e Sampled Area		Х
Hydric Soil Present?	Yes	No	X withi	n a Wetland?	Yes No	·
Wetland Hydrology Present?	Yes	No	<u>X</u>			
Remarks:	NA DAO 040004 (	20				
Upland point associated with	W-BAO-012021-0	)2				
HYDROLOGY						
Wetland Hydrology Indicate	ors:				Secondary Indicators (m	inimum of two required)
Primary Indicators (minimum		d: check all that a	(vlaga		Surface Soil Cracks	
Surface Water (A1)			ıatic Plants (B14)			Concave Surface (B8)
High Water Table (A2)		_	n Sulfide Odor (C1)		Drainage Patterns (I	
Saturation (A3)			Rhizospheres on L		Moss Trim Lines (B1	•
Water Marks (B1)			e of Reduced Iron (		Dry-Season Water T	•
Sediment Deposits (B2)			on Reduction in Til	,	Crayfish Burrows (C	
Drift Deposits (B3)		_	ck Surface (C7)	` ′		n Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (E	xplain in Remarks)		Stunted or Stressed	Plants (D1)
Iron Deposits (B5)					Geomorphic Position	n (D2)
Inundation Visible on Ae	rial Imagery (B7)			<u>.</u>	Shallow Aquitard (D	3)
Water-Stained Leaves (E	39)			ļ	Microtopographic Re	elief (D4)
Aquatic Fauna (B13)					FAC-Neutral Test (D	05)
Field Observations:						
Surface Water Present?			nches):			
Water Table Present?	Yes No	o X Depth (i	nches):			
Saturation Present?	Yes No	Depth (i	nches):	Wetland H	ydrology Present? Ye	es No <u>X</u>
(includes capillary fringe)  Describe Recorded Data (stre	eam gauge moni	toring well seria	Inhotos previous i	nenections) if avail	ahle:	
Describe Necorded Data (Str	sam gauge, mom	toring well, aeria	i priotos, previous i	nspections), ii avaii	able.	
Remarks:						
Remarks.						

EGETATION (Five Strata	a) – Use :	scientific na	mes of p	olants.		Sampling Point: U-BAO-012021-02
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	er er	Prevalence Index worksheet:
	50% of tota	al cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 /0 0.	lotai 5575		OBL species x 1 = 0
1						FACW species0 x 2 =0
2						FAC species30
3						FACU species x 4 = 320
						UPL species x 5 = 50
4 5						Column Totals:120(A)460(B)
6						Prevalence Index = B/A = 3.83
u				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of tota	al cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Charle Ctratum (Diat size:		al cover	20% 01	lotal cover		2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_						
5 6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			0_=	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of tota	al cover: 0	20% of	total cover:	0	_
Herb Stratum (Plot size:	5'	.)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. Dichanthelium clandestinum			30	Y	_FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Schedonorus arundinaceus			60	Y	FACU	Sapling – Woody plants, excluding woody vines,
3. Daucus carota			10	N	UPL	approximately 20 ft (6 m) or more in height and less
4. Rubus allegheniensis			20	N	FACU	than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						
11						Woody vine – All woody vines, regardless of height.
			120 =	= Total Cove	er	
	50% of tota	al cover: 60	20% of	total cover:	24	
Woody Vine Stratum (Plot size:			_	_		
1						
2						
3						
4						
5.						
o			0 =	= Total Cove		Hydrophytic
	500/ 51 1	. 0				Vegetation Present? Yes No X
				total cover:_	0	
Remarks: (Include photo number	ers here or o	วท a separate sh	neet.)			

Sampling Point: U-BAO-012021-02

Profile Descr	ription: (Describe t	o the depth	needed to docum	ent the in	ndicator (	or confirm	the absence	of indicate	ors.)		
Depth	Matrix		Redox	<u>Features</u>							
(inches)	Color (moist)		Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remar	KS	
0 — 10	10YR 4/4	100					Silty clay loam				
_											
_											
_											
	ncentration, D=Deple	etion, RM=Re	educed Matrix, MS	=Masked	Sand Gra	ins.	<sup>2</sup> Location: F				3
Hydric Soil I								ators for P		-	oils°:
Histosol (			Dark Surface					cm Muck (			
	ipedon (A2)		Polyvalue Bel				148) 🔲 (	Coast Prairie		16)	
Black His	, ,		Thin Dark Su			47, 148)		(MLRA 14			
_	n Sulfide (A4)		Loamy Gleye		-2)		<u> </u>	Piedmont Flo	•	oils (F19)	
	Layers (A5)		Depleted Mat					(MLRA 13			
	ck (A10) <b>(LRR N)</b>	(8.4.4)	Redox Dark S	,	,			ery Shallov			)
	Below Dark Surface	(A11)	Depleted Dar		. ,		(	Other (Expla	ıın ın Rema	rks)	
	rk Surface (A12)	DD N	Redox Depre			DD N					
	ucky Mineral (S1) <b>(L</b>	KK N,	Iron-Mangane		S (F12) (I	_KK N,					
	147, 148)		MLRA 136		MI DA 12	c 122)	<sup>3</sup> ln.	diantara of h	vdrophytio	vogetation	and
	leyed Matrix (S4)		<ul><li>☐ Umbric Surface</li><li>☐ Piedmont Float</li></ul>					dicators of h		-	
	edox (S5) Matrix (S6)		Red Parent M					etland hydro lless disturb			
	ayer (if observed):		<u> </u>	iateriai (F2	21) (IVILK	4 127, 147	T) ui	iless disturb	ed of probl	emanc.	
	ayer (ii observeu).	No									
Type:			<del>_</del>								
Depth (inc	hes):		_				Hydric Soi	l Present?	Yes	No_	<u>X</u>
Remarks:											
US Departme	nt of Energy property	does not all	ow digging past 12	2"							

Project/Site: Arboles Station a	nd Transmissi	on Lines	s Project	//County: Pike Cour	nty	Camaniina Data	01/21/2021
Applicant/Owner: AEP	Transmissi	orr Emio	City	//County:	State: OH	Sampling Date	e: oint: <del></del>
Investigator(s): BAO, JFW			Society	otion Township Do	nge: S 6 T 4N R 22W		ли. <u> </u>
Landform (hillslope, terrace, etc.	. v. Swale						(0/), 3
Subregion (LRR or MLRA): LR			Local I	eller (concave, conv	g:	3 01413	WGS 84
Soil Map Unit Name: Omu1B1							um: <u>*********</u>
Are climatic / hydrologic conditi							v
Are Vegetation, Soil					'Normal Circumstances'		
Are Vegetation , Soil _	_, or Hydro	logy _	_ naturally proble	matic? (If ne	eded, explain any ansv	vers in Remarks.)	
SUMMARY OF FINDING	GS – Attacl	ı site	map showing sa	ampling point lo	ocations, transect	ts, important	features, etc.
Hydrophytic Vegetation Prese	ent? Ye	es X	No	Is the Sampled	Aroa		
Hydric Soil Present?			No	within a Wetlan	nd? Yes	X No	
Wetland Hydrology Present?			No				<u> </u>
Remarks:							
PEM wetland near the bottom	of a hill and w	thin t-lir	ne ROW.				
HYDROLOGY							
					O d d - d	to the second sector to the second	- <b>f f</b> · · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicato						icators (minimum	ot two required)
Primary Indicators (minimum	of one is requi	red; che	<b>-</b>		_	oil Cracks (B6)	
Surface Water (A1)		F	True Aquatic Plant			egetated Concav	e Surface (B8)
High Water Table (A2)			Hydrogen Sulfide (			Patterns (B10)	
Saturation (A3)		<u> \_</u>	-	eres on Living Roots	· · · —	Lines (B16)	0)
Water Marks (B1)		F	Presence of Reduc			n Water Table (C	2)
Sediment Deposits (B2)		누	_	tion in Tilled Soils (0		urrows (C8)	I (CO)
Drift Deposits (B3)		┝	Thin Muck Surface		_	Visible on Aerial I	
Algal Mat or Crust (B4) Iron Deposits (B5)		<u>.</u>	☑ Other (Explain in R	terriarks)	_	Stressed Plants ( nic Position (D2)	טו)
Inundation Visible on Aer	ial Imagery (R	7)			_	quitard (D3)	
Water-Stained Leaves (B	• • •	' )			=	graphic Relief (D4)	`
Aquatic Fauna (B13)	9)				_	ral Test (D5)	,
, , ,					I AO-Neuti		
Field Observations:	Vaa	. Y	Danth (inches)				
Surface Water Present?			Depth (inches):				
Water Table Present?			Depth (inches):			v	
Saturation Present? (includes capillary fringe)	Yes _ ^_	No	Depth (inches):	<u>0.00</u> We	etland Hydrology Pres	ent? Yes^_	No
Describe Recorded Data (stre	eam gauge, mo	nitoring	well, aerial photos, p	previous inspections	), if available:		
,		-			,		
Remarks:							

EGETATION (Five Strat	a) – Use	scientific na	mes of p	olants.		Sampling Point: W-BAO-012121-05
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 1 (B)
4						Descent of Deminant Chapter
5						Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of to	tal cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:				10101 22		OBL species 0 x 1 = 0
1						FACW species110 x 2 =220
2						FAC species x 3 = 60
3						FACU species 0 x 4 = 0
						UPL species0 x 5 =0
4 5						Column Totals:130 (A)280 (B)
6						Prevalence Index = B/A = 2.15
o				= Total Cove		Hydrophytic Vegetation Indicators:
	F00/ -f4-	t-1 0				X 1 - Rapid Test for Hydrophytic Vegetation
Ohanda Ohantana (Diataia)		tal cover: 0	20% of	total cover:		X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			=	= Total Cove	∍r	Definitions of Five Vegetation Strata:
		tal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Juncus effusus			20	<u>N</u>	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Dichanthelium clandestinum	1		20	N	FAC_	Sapling – Woody plants, excluding woody vines,
3. Onoclea sensibilis			20	N	FACW	approximately 20 ft (6 m) or more in height and less
4. Dichanthelium scoparium			70	Y	FACW	than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						All was about a server and a server a server as a serv
11						Woody vine – All woody vines, regardless of height.
			130=	= Total Cove	er	
	50% of to	tal cover: 65	20% of	total cover:	26	
Woody Vine Stratum (Plot size:				_		
1		,				
2						
3						
4						
5.						
J			0 =	= Total Cove		Hydrophytic
		0				Vegetation Present? Yes X No
				total cover:	0	
Remarks: (Include photo numb	ers here or	on a separate sl	neet.)			

Sampling Point: W-BAO-012121-05

Depth (inches)         Matrix Color (moist)         Redox Features         Loc²         Texture         Remarks           0 — 10         10YR 5/1         85         7.5YR 5/8         15         C         M, PL         Silty clay           —         —         —         —         —         —           —         —         —         —         —           —         —         —         —         —           —         —         —         —         —
0 — 10 10YR 5/1 85 7.5YR 5/8 15 C M, PL Silty clay  — — — — — — — — — — — — — — — — — —
<u>-</u>
_
<u>-</u>
_ <del>-</del>
_
<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 Soil
☐ Histosol (A1) ☐ Dark Surface (S7) ☐ 2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Coast Prairie Redox (A16)
☐ Black Histic (A3) ☐ Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148)
Hydrogen Sulfide (A4)  Loamy Gleyed Matrix (F2)  Piedmont Floodplain Soils (F19)
☐ Stratified Layers (A5) ☐ Depleted Matrix (F3) (MLRA 136, 147)
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks)
☐ Thick Dark Surface (A12) ☐ Redox Depressions (F8)
Sandy Mucky Mineral (S1) (LRR N,
MLRA 147, 148) MLRA 136)
☐ Sandy Gleyed Matrix (S4) ☐ Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation at
Sandy Redox (S5)  Piedmont Floodplain Soils (F19) (MLRA 148)  wetland hydrology must be present,
Stripped Matrix (S6)  Red Parent Material (F21) (MLRA 127, 147)  wetland hydrology must be present, wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed): No
Type:
Depth (inches): Hydric Soil Present? Yes X No
Remarks:
US Department of Energy property does not allow digging past 12"

# Upland AS-003

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County Sampling Date: 01/21/2021
Applicant/Owner: AEP	State: OH Sampling Point: U-BAO-012121-05
Investigator(s): BAO, JFW	Section, Township, Range: S 6 T 4N R 22W
Landform (hillslope, terrace, etc.): Footslope	Local relief (concave, convex, none): Undulating Slope (%): 2
Subregion (LRR or MLRA): LRR N Lat: 39.01651	Local relief (concave, convex, none): Undulating Slope (%): 2  Long: -83.01417 Datum: WGS 84
Soil Map Unit Name: Omu1B1: Omulga silt loam, 2 to 6 percent sle	opes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significa	antly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes NoX	Is the Sampled Area
Hydric Soil Present? Yes NoX	
Wetland Hydrology Present? Yes No _X	<u> </u>
Remarks:	
Upland point associated with W-BAO-012121-05	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
	ic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10)
	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
	of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2)	n Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	lain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	☐ Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:  Surface Water Present?  Yes  No  X  Depth (inc	hoo).
Water Table Present?  Yes No _X Depth (inc Saturation Present?  Yes No _X Depth (inc	·
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:
Remarks:	

EGETATION (Five Strat	a) – Use	scientific na	ımes of p	olants.		Sampling Point: U-BAO-012121-05
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Description of Description of One of the
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
· · · · · · · · · · · · · · · · · · ·				= Total Cove	<u></u>	Prevalence Index worksheet:
	50% of to	otal cover: 0	·			Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 % 01	lotal cover.		OBL species0 x 1 =0
						FACW species x 2 = 40
1						FAC species 30 x 3 = 90
2						FACU species70 x 4 =280
3						UPL species0 x 5 =0
4						Column Totals: 120 (A) 410 (B)
5						(-)
6						Prevalence Index = B/A = 3.42
				= Total Cove	ər	Hydrophytic Vegetation Indicators:
	50% of to	otal cover: 0	20% of	total cover:	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		1	<b></b>			2 - Dominance Test is >50%
1		/				3 - Prevalence Index is ≤3.0 <sup>1</sup>
						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			=	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of to	otal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Andropogon virginicus			10	N	FACU	(7.6 cm) or larger in diameter at breast height (DBH).
2. Dichanthelium clandestinum			30	Υ	FAC	Sapling – Woody plants, excluding woody vines,
3. Dichanthelium scoparium			20		FACW	approximately 20 ft (6 m) or more in height and less
Schedonorus arundinaceus			60	Y	FACU	than 3 in. (7.6 cm) DBH.
5				<u> </u>		Shrub – Woody plants, excluding woody vines,
						approximately 3 to 20 ft (1 to 6 m) in height.
6						All 1 and 1
7						Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8						plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						1100ay 1 7
			120 =	= Total Cove	er	
	50% of to	otal cover: 60	_ 20% of	total cover:	24	
Woody Vine Stratum (Plot size	:3(	0' )				
1						
2						
3						
4						
5						Hydrophytic
			=	= Total Cove	∍r	Vegetation
	50% of to	otal cover: 0	20% of	total cover:	0	Present? Yes NoX
Remarks: (Include photo numb	ers here o	r on a separate s	heet.)			

Sampling Point: U-BAO-012121-05

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	dicator o	or confirm	the absence	of indicate	ors.)		
Depth	Matrix		Redox	<u>Features</u>	4						
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	_	Remar	(S	
0 — 10	10YR 4/3		/				Silty clay loam				
_											
								-			
_											
_											
<sup>1</sup> Type: C=Co	ncentration, D=Depl	etion RM-Re	aduced Matrix MS	-Macked	Sand Gra		<sup>2</sup> Location: P	I -Pore Lini	na M-Mat	riv	
Hydric Soil I		cuon, min-m	educed Matrix, Mo	-iviaskeu	Sanu Gra	aii i5.		ators for P			ils <sup>3</sup> ·
Histosol			☐ Dark Surface	(97)				cm Muck (		-	
	ipedon (A2)		Polyvalue Bel		م (SS) <b>(M</b>	II DA 1 <i>1</i> 7		ciii wuck (. Coast Prairie	, .		
Black His			Thin Dark Su				146) (	MLRA 14)		10)	
_	, ,					47, 140)	П.	ivicka 14 Piedmont Flo		ilo (E10)	
_	n Sulfide (A4)		Loamy Gleye		-2)		<u> </u>		•	iis (F 19)	
	Layers (A5)		Depleted Mat		2.		$\Box$	(MLRA 13		(TE 40)	
	ck (A10) (LRR N)	(* 4 4)	Redox Dark S	`	,			ery Shallov			
	Below Dark Surface	(A11)	Depleted Dar		. ,		Ш,	Other (Expla	ın ın Rema	íks)	
	rk Surface (A12)		Redox Depre								
-	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangane		s (F12) <b>(I</b>	LRR N,					
MLRA	147, 148)		MLRA 136	<b>5)</b>							
☐ Sandy G	leyed Matrix (S4)		Umbric Surface	ce (F13) <b>(N</b>	MLRA 13	6, 122)	<sup>3</sup> Inc	licators of h	ydrophytic	vegetation	and
☐ Sandy R	edox (S5)		☐ Piedmont Flo	odplain So	ils (F19)	(MLRA 14	8) we	etland hydro	logy must l	oe present,	
	Matrix (S6)		Red Parent M					less disturb			
	ayer (if observed):	No		,							
Type:	•										
• • • • • • • • • • • • • • • • • • • •	hes):		_				Hydric Soi	Drasant?	Yes	No	X
			=				Tiyane 301	T TC3CIIC:			
Remarks:	-4 - <b>4</b>			<b>NI</b>							
US Departme	nt of Energy property	does not all	ow digging past 12	<u> </u>							

# Wetland AS-004

Project/Site: Arboles Station a	and Transm	nission L	ines P	roject City	County. Pike	County		Sampling	Date: 01/21	1/2021
Applicant/Owner: AEP				Oily,			State: OH	_ camping Samplir	na Point <sup>, W-E</sup>	3AO-012121-02
Investigator(s): BAO, JFW				Sec			T 4N R 22W		.g. o	
Landform (hillslope, terrace, et	C )· Toeslo	pe		L ocal re	elief (concave	convex non	e). Concave		Slone (%	
Subregion (LRR or MLRA): <u>LF</u>	3.7. <u></u> RR N		I at·	39.01608	Silor (Gorioavo	Long:	-83	.00787	Datum: W	GS 84
Soil Map Unit Name: UoA: Urb										
Are climatic / hydrologic condit										
Are Vegetation <u>√</u> , Soil							Circumstances"		/es X	No
Are Vegetation , Soil,							xplain any answ			
Are vegetation , con	_, 01 11	yarology	· -	naturally probler	natio:	(II riccaca, c	Apiairi ariy arisw		iko.)	
SUMMARY OF FINDING	GS – Att	ach si	ite ma	ap showing sa	mpling po	int locatio	ns, transect	s, importa	ant featur	res, etc.
Hydrophytic Vegetation Prese	ent?	Yes	Х	No	Is the San	npled Area				
Hydric Soil Present?				No	within a W	etland?	Yes	No		
Wetland Hydrology Present?				No						
Remarks:										
PEM wetland at toe of slope n	next to road	l. Drains	to cul	vert that feeds S-BA	AO-012121-01	. Vegetation i	is regularly mow	ed.		
·						J				
HYDROLOGY										
							0 1 1 "			
Wetland Hydrology Indicate							Secondary Indic			<u>equirea)</u>
Primary Indicators (minimum	of one is re	<u>equired;</u>			<i></i>		_	l Cracks (B6	-	(= -)
Surface Water (A1)			_	True Aquatic Plants				egetated Cor		ce (B8)
High Water Table (A2)				Hydrogen Sulfide O		1		atterns (B10	)	
Saturation (A3)				Oxidized Rhizosphe	_	Roots (C3)	Moss Trim		- (00)	
Water Marks (B1)			$\overline{}$	Presence of Reduce	, ,	-: - (00)		Water Table	e (C2)	
Sediment Deposits (B2)			=	Recent Iron Reduct Thin Muck Surface		olis (C6)	Crayfish Bu	rrows (C8) /isible on Ae	rial Imagan	, (CO)
Drift Deposits (B3) Algal Mat or Crust (B4)			_	Other (Explain in Re		-		Stressed Pla		/ (C9)
Iron Deposits (B5)			ш,	Other (Explain in N	ziliai kə j			c Position (D		
Inundation Visible on Ae	rial Imager	v (B7)					Shallow Aq	-	2)	
Water-Stained Leaves (E		, (5.)						andi d (Bo) aphic Relief	(D4)	
Aquatic Fauna (B13)							FAC-Neutra		(= .)	
Field Observations:								()		
Surface Water Present?	Yes	No	Х	Depth (inches):						
Water Table Present?				Depth (inches):	4.00					
Saturation Present?				Depth (inches):	4.00	Wetland Hy	ydrology Prese	nt? Vas	X No.	,
(includes capillary fringe)								iic. 103_		
Describe Recorded Data (stre	eam gauge	, monito	oring w	ell, aerial photos, p	revious inspec	ctions), if avail	lable:			
Remarks:										

EGETATION (Five Strat	ta) – Use	scientific na	ames of p	olants.		Sampling Point: W-BAO-012121-02
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:1.		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of tot	tal cover: 0	20% of	total cover:	0	
Sapling Stratum (Plot size:				<del>-</del>		<u> </u>
1						171011 oposics X
2						1710 opeoloo X 0
3						1 ACC species X 4
4						UPL species 0 x 5 = 0
5						Column Totals:105 (A) (B)
6						Prevalence Index = B/A =2.48
				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of tot	tal cover: 0	20% of	total cover	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		\ \	20 /0 0.	lotai 60 voi.		2 - Dominance Test is >50%
,		/				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			:	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of tot	tal cover: 0	20% of	total cover:	00	
Herb Stratum (Plot size:	5'	_)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
A NC - Landana			20	N	OBL_	(7.6 cm) or larger in diameter at breast height (DBH).
a lunava officera			20	Υ	FACW	Sapling – Woody plants, excluding woody vines,
3. Ludwigia alternifolia			5	N	FACW	approximately 20 ft (6 m) or more in height and less
4. Solidago canadensis			30	Y	FACU	than 3 in. (7.6 cm) DBH.
5. Epilobium coloratum			10	N	FACW	Shrub – Woody plants, excluding woody vines,
6. Microstegium vimineum			10	N	FAC	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						
11						Woody vine – All woody vines, regardless of height.
				= Total Cove	er	
	50% of tot	tal cover: 63	20% of	total cover:	25	
Woody Vine Stratum (Plot size						
1						
2						
3						
4						
5.						
0			0 :	= Total Cove		Hydrophytic
	<b>-</b>	0				Vegetation Present?  Yes X No
		tal cover: 0		total cover:	0	100
Remarks: (Include photo numb	pers here or	on a separate sl	heet.) Pa	artly mowed		

Sampling Point: W-BAO-012121-02

Profile Desc	ription: (Describe t	to the depti	n needed to docun	ent the i	ndicator	or confirn	n the absence	e of indicators.)
Depth	Matrix			K Features	3			
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
<u>0</u> — 10	10YR 5/2	80	10YR 6/6	15	C	M		
<u>0 - 10</u>			10YR 5/8	5	C	PL	Silty clay loam	
			_					
	oncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indic	ators for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Dark Surface					2 cm Muck (A10) <b>(MLRA 147)</b>
Histic Ep	ipedon (A2)		Polyvalue Be		. , .		, 148) 🔲 🤇	Coast Prairie Redox (A16)
Black Hi	stic (A3)		Thin Dark Su	rface (S9)	(MLRA	147, 148)		(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	d Matrix (	F2)		<u>□</u> F	Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Depleted Mat	rix (F3)				(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)		Redox Dark S	Surface (F	6)			/ery Shallow Dark Surface (TF12)
_	Below Dark Surface	e (A11)	Depleted Dar	•	,		_	Other (Explain in Remarks)
	rk Surface (A12)	,	Redox Depre					,
	lucky Mineral (S1) <b>(L</b>	PR N	☐ Iron-Mangane			IRRN		
	147, 148)	.ixix iv,	MLRA 136		J3 (1 12) (	LIXIX IV,		
					NAI DA 40	0. 400)	31	d:
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					etland hydrology must be present,
Stripped	Matrix (S6)		Red Parent M	laterial (F	21) <b>(MLR</b>	A 127, 14	<b>7)</b> ur	nless disturbed or problematic.
Restrictive I	ayer (if observed):	No						
Type:								
Depth (inc	ches):						Hydric Soi	l Present? Yes X No
Remarks:								
	ent of Energy property	v does not a	allow digging past 12	2"				
	3,	,						

# Upland AS-004

Project/Site: Arboles Station and Tran	smission Lines Proje	ect City/0	County: Pike County		Sampling Date: 01/21/2021
Applicant/Owner: AEP				_ State: OH	Sampling Point: U-BAO-012121-02
Investigator(s): BAO, JFW		Secti	on, Township, Range: <u>S</u>	6 T 4N R 22W	
Landform (hillslope, terrace, etc.): Hills	ide	Local re	lief (concave, convex, nor	ne): Convex	Slope (%): <u>3</u>
Landform (hillslope, terrace, etc.): <u>Hills</u> Subregion (LRR or MLRA): <u>LRR N</u>	Lat: <u>39.</u>	01607	Long:	-83.	00783 Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-					
Are climatic / hydrologic conditions on	the site typical for thi	s time of year? \	Yes X No	(If no, explain in F	Remarks.)
Are Vegetation <u>√</u> , Soil, or	Hydrologys	significantly distu	rbed? Are "Normal	Circumstances"	present? Yes X No
Are Vegetation _, Soil, or	Hydrologyr	naturally problem	atic? (If needed, e	explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – A	ttach site map	showing san	npling point location	ons, transects	s, important features, etc.
Hydrophytic Vegetation Present?	Yes N	lo X	La the Courant of America		
Hydric Soil Present?	Yes N		Is the Sampled Area within a Wetland?	Yes	NoX
Wetland Hydrology Present?	Yes N				
Remarks:					
Upland point associated with W-BAO-	012121-02. Vegetati	on has been mov	wed		
	-				
LIVEROLOGY					
HYDROLOGY					
Wetland Hydrology Indicators:					ators (minimum of two required)
Primary Indicators (minimum of one is			(2.4.1)	$\equiv$	Cracks (B6)
Surface Water (A1)	_	e Aquatic Plants			getated Concave Surface (B8)
High Water Table (A2) Saturation (A3)		Irogen Sulfide Od	res on Living Roots (C3)		atterns (B10)
Water Marks (B1)		sence of Reduce	=	Moss Trim L	Water Table (C2)
Sediment Deposits (B2)			on in Tilled Soils (C6)	Crayfish Bui	` '
Drift Deposits (B3)		n Muck Surface (			isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_	er (Explain in Re	•		Stressed Plants (D1)
Iron Deposits (B5)		` .	,		Position (D2)
Inundation Visible on Aerial Imag	ery (B7)			Shallow Aqu	uitard (D3)
Water-Stained Leaves (B9)				Microtopogr	aphic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutra	I Test (D5)
Field Observations:					
Surface Water Present? Yes _	No <u>X</u> De	pth (inches):			
Water Table Present? Yes _	No <u>X</u> De	pth (inches):			
	No <u>X</u> De	pth (inches):	Wetland H	Hydrology Prese	nt? Yes No <u>X</u>
(includes capillary fringe)  Describe Recorded Data (stream gau	age monitoring well	aerial nhotos, pre	evious inspections) if ava	nilahle.	
Bescribe Necorded Bata (stream gad	ge, morntoring wen,	acriai priotos, pre	zvious irispections), ir ava	mable.	
Remarks:					
Nemarks.					

				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2						Total Number of Dominant
3						Species Across All Strata: 1 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 0.00 (A/B)
6						
			:	= Total Cove	er	Prevalence Index worksheet:
	50% of to	tal cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:				•		OBL species 0 x 1 = 0  FACW species 0 x 2 = 0
1						171011 Species X Z
2						1 AO 3pcolo3 X 0
3						17100 species X +
4						UPL species 0 x 5 = 0
5						Column Totals:100 (A)400 (B)
6						Prevalence Index = B/A = 4.00
-				= Total Cove	 er	Hydrophytic Vegetation Indicators:
	EO9/ of to	tal agyar: 0				1 - Rapid Test for Hydrophytic Vegetation
Charle Charles (Dist size)		tal cover: 0	20% 01	total cover.		2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5						4
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		_	0 :	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of to	tal cover: 0	20% of	total cover:	0	
Herb Stratum (Plot size:		)	20 /0 01		<u>-</u>	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
		_/	10	N	FACU	(7.6 cm) or larger in diameter at breast height (DBH).
Rubus allegheniensis				N	FACU	
3 Schedonorus arundinaceus			70	<u>Y</u>	FACU	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Solidago canadensis			10		FACU	than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
						herbaceous vines, regardless of size, and woody
8 a						plants, except woody vines, less than approximately 3
9 10						ft (1 m) in height.
11.						Woody vine – All woody vines, regardless of height.
11			100	= Total Cove		
	500/ 51					
		tal cover: 50	20% of	total cover:	20	
Woody Vine Stratum (Plot size:		/				
1						
2						
3						
4						
5						Hydrophytic
			:	= Total Cove	er	Vegetation
	50% of to	tal cover: 0	20% of	total cover:	0	Present? Yes NoX
Remarks: (Include photo numb	ers here or	on a separate s	heet.)			1

Sampling Point: U-BAO-012121-02

	Color (moist) 10YR 6/4	<u>%</u> 70	Color (moist)	0/	Tuno <sup>1</sup>	Loc <sup>2</sup>	Toyturo	Domorko
		70	10YR 6/8	<u>%</u>	Type <sup>1</sup> C	M	Texture Silty clay loam	Remarks
8 	<u></u>							
<u>-</u> -			2.5Y 6/1		C	M	Silty clay	texture Silty clay loam
<u>-</u> - -								
<u> </u>								
					,			
<del>-</del>								
_ <b>_</b>								
_								
	contration D-Donl		aduand Matrix MS		and Cra		<sup>2</sup> l continue DI	 _=Pore Lining, M=Matrix.
dric Soil Ind	centration, D=Depl	Buon, Rivi-R	educed Matrix, Mi	5-Maskeu S	and Gra	IIIS.		tors for Problematic Hydric Soils <sup>3</sup> :
Histosol (A			☐ Dark Surface	(97)				cm Muck (A10) <b>(MLRA 147)</b>
Histic Epipe			Polyvalue Be		(S8) <b>(M</b>	I RA 147		oast Prairie Redox (A16)
Black Histic	· ·		Thin Dark Su		. , .		140, 0	(MLRA 147, 148)
	Sulfide (A4)		Loamy Gleye			, ,	☐ Pi	edmont Floodplain Soils (F19)
Stratified La			☐ Depleted Ma		,			(MLRA 136, 147)
2 cm Muck	(A10) <b>(LRR N)</b>		Redox Dark	Surface (F6)	)		<u> </u>	ery Shallow Dark Surface (TF12)
-	Below Dark Surface	(A11)	Depleted Da		<del>-</del> 7)		.∐ ∘	ther (Explain in Remarks)
_	Surface (A12)		Redox Depre					
-	cky Mineral (S1) (L	RR N,	☐ Iron-Mangan		(F12) <b>(L</b>	.RR N,		
MLRA 1			MLRA 13		I DA 12	100)	311:	
Sandy Gley  Sandy Red	yed Matrix (S4)		☐ Umbric Surfa☐ Piedmont Flo					cators of hydrophytic vegetation and tland hydrology must be present,
Sandy Red  Stripped Ma			Red Parent N					ess disturbed or problematic.
	yer (if observed):	Ves	recurrence	viatoriai (i Z	) (IVILITY	. 127, 147	, uni	ess distarbed of problematic.
Type: Rock	<del></del>	103						
Depth (inche			_				Hydric Soil	Present? Yes No X
emarks:	00). <u>-</u>		_				Tiyane son	11030Ht. 103 NO
	of Energy property	v does not al	low digging past 1	2"				
Dopartmont	or Energy property	accontact an	iow algging pace i	_				

Project/Site: Arboles Station and Transmission Lines Project City/C	Pike County 01/21/2021
	County: Pike County Sampling Date: 01/21/2021  State: OH Sampling Point: W-BAO-012121-0
Applicant/Owner: AEP Investigator(s): BAO, JFW Section	State: Sampling Point: State: Sampling Point: State: Sampling Point: State: State: Sampling Point: State: S
• ( )	on, Township, Range: S 18 T 4N R 21 W
Landform (hillslope, terrace, etc.): Flat Local reli	
	Long: -83.00551 Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 percent slope	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation , Soil , or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing same	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area X
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes X No No	
Remarks:	
PEM wetland formed from former construction area. Concrete foundations to	hroughout.
Soils were not obtained due to US DOE restrictions on digging in the area. A	Assumed hydric due to strong vegetative and hydrologic indicators.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	
High Water Table (A2)  Hydrogen Sulfide Od	
	es on Living Roots (C3)
Water Marks (B1)	
Sediment Deposits (B2)	
Drift Deposits (B3)  Thin Muck Surface (C	
Algal Mat or Crust (B4)  Other (Explain in Rer  Iron Deposits (B5)	
Inon Deposits (B5) Inundation Visible on Aerial Imagery (B7)	☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	TAO-Neutral Test (D0)
	2.00
Water Table Present? Yes No _X _ Depth (inches):	
Saturation Present? Yes X No Depth (inches): (includes capillary fringe)	0.00 Wetland Hydrology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	

EGETATION (Five Stra	ita) – Us	e scientific n	ames of <sub>l</sub>	olants.		Sampling Point: W-BAO-012121-01
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2			·			Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Deminant Species
5						Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6						
				= Total Cov	er	Prevalence Index worksheet:
	50% of t	total cover:0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:	4	)	20 /0 01	total cover.		OBL species 120 x 1 = 120
· · ·			5	Υ	OBL	FACW species5 x 2 =10
						FAC species0 x 3 =0
2						FACU species5 x 4 =20
3						UPL species0 x 5 =0
4						Column Totals:130 (A)150 (B)
5						Prevalence Index = R/A = 1.15
6						1 Tevalence index = B/A =
				= Total Cov		Hydrophytic Vegetation Indicators:
	50% of t	total cover:3	20% of	total cover:	1	X 1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:	15'	)				X 2 - Dominance Test is >50%
1						X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
2						4 - Morphological Adaptations (Provide supporting
3						data in Remarks or on a separate sheet)
4			- <u></u>			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5						1
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			0	= Total Cov	er	Definitions of Five Vegetation Strata:
	50% of t	total cover: 0	20% of	total cover	0	_
Herb Stratum (Plot size:		)	2070 01	total oover.		Tree – Woody plants, excluding woody vines,
. T		<b>—</b> /	90	Y	OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Scirpus atrovirens			5 5		OBL	
3 Juncus canadensis			20		OBL	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Scirpus cyperinus		-		N	FACW	than 3 in. (7.6 cm) DBH.
Andropogon virginicus			. <u> </u>	N	FACU	Shrub Woody plants avaluding woody vince
-					17100	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6						
7						Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8						plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10			·			Woody vine – All woody vines, regardless of height.
11						Treedy time 7 in messy times, regardless of melgini
			125	= Total Cov	er	
	50% of t	total cover: <u>63</u>	20% of	total cover:	25	
Woody Vine Stratum (Plot siz	.e:3	30' )				
1						
2						
3						
4						
5.						
<u> </u>			0	= Total Cov	er	Hydrophytic
	F00/ 5:	hadal assum 0				Vegetation Present?  Yes X No
		total cover: 0		total cover:	0	
Remarks: (Include photo num	bers here o	or on a separate s	sheet.)			

Sampling Point: W-BAO-012121-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			x Features						
(inches)	Color (moist)	<u></u> % C	color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Textu</u>	re	Remarks	3
_										
								<del></del>		
_										
							-			
_										
_										
_										
1							2			
	oncentration, D=Depl	etion, RM=Red	uced Matrix, MS	S=Masked S	Sand Gra	ins.		n: PL=Pore Lir		
Hydric Soil I			_				li	ndicators for F		•
☐ Histosol	(A1)	<u> </u>	Dark Surface				]		(A10) <b>(MLRA</b>	
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfac	e (S8) <b>(M</b>	LRA 147,	148) <u>[</u>	Coast Prairi	e Redox (A16	6)
Black Hi	stic (A3)		Thin Dark Su	rface (S9)	(MLRA 1	47, 148)		(MLRA 1	47, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	d Matrix (F	2)		<u>[</u>	Piedmont F	loodplain Soil	s (F19)
Stratified	Layers (A5)		Depleted Mat	rix (F3)				(MLRA 1	36, 147)	
2 cm Mu	ck (A10) (LRR N)	Г	Redox Dark	Surface (F6	6)		[	☐ Very Shallo	w Dark Surfac	ce (TF12)
Depleted	Below Dark Surface	(A11) <u></u>	Depleted Dar	k Surface (	(F7)		[	Other (Expl	ain in Remark	s)
Thick Da	rk Surface (A12)		Redox Depre	ssions (F8)	)					
□ Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masse	s (F12) <b>(L</b>	RR N,				
	147, 148)		MLRA 13		, , ,					
	leyed Matrix (S4)		Umbric Surfa	•	/ILRA 130	6, 122)		<sup>3</sup> Indicators of I	nydrophytic ve	egetation and
	edox (S5)	Ī	Piedmont Flo				8)		ology must be	-
	Matrix (S6)	Ť	Red Parent N					-	bed or proble	
	ayer (if observed):	No.			., (	,	<del>Í –</del>	<u> </u>	. p. 00.0.	
		140								
Type:							l			
Depth (inc	ches):						Hydric	Soil Present?	Yes	No
Remarks:										
Soils were no	t obtained due to US	DOE restrictio	ns on digging in	the area. A	Assumed	hydric due	e to stronç	g vegetative and	d hydrologic ir	ndicators.

Project/Site: Arboles Station	and Transm	nission L	ines F	Proiect	City/	County: Pike	County		Sampling	Date: 01	1/21/2021
Applicant/Owner: AEP				,	City/	County.	<u> </u>	State: OH	_ Sampling Sampli	na Point:	U-BAO-012121-01
Investigator(s): BAO, JFW					Coat	ion Townshi	n Dangai S	_ State: 18 T 4N R 21 W	Sampli	ng Font.	
										01	(0/) O
Landform (hillslope, terrace, e					Locai re	ellet (concave	, convex, nor	1e): 1 101	0.00554	Slope	(%): <u>U</u>
Subregion (LRR or MLRA): LI					4		Long:	-83		Datum:	VVG3 64
Soil Map Unit Name: UoA: Ur										`	
Are climatic / hydrologic condi										V	
Are Vegetation, Soil _								Circumstances"			No
Are Vegetation , Soil	_, or H	ydrology	<i>/</i>	_ natur	ally problem	natic?	(If needed, e	explain any answ	ers in Rema	arks.)	
SUMMARY OF FINDIN	GS – Att	ach si	ite m	ap sho	owing sar	npling po	int locatio	ns, transect	s, import	ant fea	tures, etc.
Hydrophytic Vegetation Pres	ent?	Yes		No	Χ	Is the San	npled Area				
Hydric Soil Present?		Yes		No	X		letland?	Yes	No	X	
Wetland Hydrology Present?	,	Yes		No_	Χ						
Remarks:						1					
Upland point associated with various underground electrica		S-005 (V	v-BAC	0-012121	1-01). Solis	ampie was u	nable to be o	bserved due to (	JS DOE resi	trictions II	1 area due to
HYDROLOGY											
Wetland Hydrology Indicat	ors:							Secondary India	cators (minin	num of tw	o required)
Primary Indicators (minimum	of one is re	equired;	check	all that	apply)			☐ Surface So	il Cracks (B6	3)	
Surface Water (A1)				True Aq	uatic Plants	(B14)		☐ Sparsely V	egetated Co	ncave Su	ırface (B8)
High Water Table (A2)				Hydroge	n Sulfide O	dor (C1)		Drainage P	atterns (B10	))	
Saturation (A3)				Oxidized	d Rhizosphe	res on Living	Roots (C3)	Moss Trim	Lines (B16)		
Water Marks (B1)				Presenc	e of Reduce	ed Iron (C4)		Dry-Season	n Water Tab	le (C2)	
Sediment Deposits (B2)				Recent I	ron Reducti	on in Tilled S	oils (C6)	Crayfish Bu	ırrows (C8)		
Drift Deposits (B3)				Thin Mu	ck Surface (	C7)		Saturation	Visible on A	erial Imag	jery (C9)
Algal Mat or Crust (B4)				Other (E	xplain in Re	marks)		Stunted or	Stressed Pla	ants (D1)	
Iron Deposits (B5)								Geomorphi	c Position (E	02)	
Inundation Visible on Ae	rial Imager	y (B7)						Shallow Aq	uitard (D3)		
Water-Stained Leaves (B9)						Microtopographic Relief (D4)					
Aquatic Fauna (B13)								FAC-Neutra	al Test (D5)		
Field Observations:											
Surface Water Present?	Yes	No_	Χ	Depth (	inches):						
Water Table Present?	Yes	No	Χ	Depth (	inches):						
Saturation Present?					inches):		Wetland H	lydrology Prese	ent? Yes		No X
(includes capillary fringe)								5 05		·	
Describe Recorded Data (str	eam gauge	, monito	oring w	ell, aeria	al photos, pr	evious inspe	ctions), if ava	ilable:			
Remarks:											

EGETATION (Five Stra	ta) – Use scientific	Sampling Point: U-BAO-012121-01				
T 01 1 (DI 1 :	20'	Absolute Dominant Indicato				
Tree Stratum (Plot size: 1		% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)			
2			Total Number of Dominant			
3			Species Across All Strata: 3 (B)			
4			- Dercent of Deminent Charles			
5			Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)			
6			_			
		0 = Total Cover	Prevalence Index worksheet:			
	50% of total cover:	0 20% of total cover: 0	Total % Cover of: Multiply by:			
Sapling Stratum (Plot size:			OBL species 0 x 1 = 0			
1			FACW species0 x 2 =0			
2			FAC species 50 x 3 = 150			
3			FACU species 30 x 4 = 120			
4			UPL species 20 x 5 = 100			
5			Column Totals:100 (A)370 (B)			
6			Prevalence Index = B/A = 3.7			
			Hydrophytic Vegetation Indicators:			
	500/ aftatal assum: 5		1 - Rapid Test for Hydrophytic Vegetation			
Ohanda Otastana (District		20 20% of total cover: 8	2 - Dominance Test is >50%			
Shrub Stratum (Plot size:			3 - Prevalence Index is ≤3.0¹			
1			4 - Morphological Adaptations <sup>1</sup> (Provide supporting			
2			data in Remarks or on a separate sheet)			
3			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
4			_			
5			Indicators of hydric soil and wetland hydrology must			
6			be present, unless disturbed or problematic.			
		0 = Total Cover	Definitions of Five Vegetation Strata:			
		0 20% of total cover: 0	Tree – Woody plants, excluding woody vines,			
Herb Stratum (Plot size:	)		approximately 20 ft (6 m) or more in height and 3 in.			
1. Andropogon gerardii			(7.6 cm) or larger in diameter at breast height (DBH).			
2. Erigeron annuus		<u>20</u> <u>Y</u> <u>FACU</u>	<ul> <li>Sapling – Woody plants, excluding woody vines,</li> </ul>			
3. Daucus carota			approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.			
4. Setaria pumila		<u>10 N FAC</u>	-   than 3 m. (7.0 cm) DBH.			
5. Trifolium repens 6		<u>10 N</u> <u>FACU</u>	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.			
7			Herb – All herbaceous (non-woody) plants, including			
8			herbaceous vines, regardless of size, and woody			
			<ul> <li>plants, except woody vines, less than approximately 3</li> <li>ft (1 m) in height.</li> </ul>			
10						
11			Woody vine – All woody vines, regardless of height.			
		= Total Cover				
	50% of total cover: 5	50 20% of total cover: 20				
Woody Vine Stratum (Plot size		20 / 01 total 00 (01	_			
1	,					
			_			
			_			
3 4			-			
			_			
5			- Hydrophytic			
			Vegetation Present? Yes NoX			
	50% of total cover:	0 20% of total cover: 0				

Sampling Point: U-BAO-012121-01

Profile Description: (Describe to the depth	needed to document the indicator or confirm	the absence of indicators.)
Depth <u>Matrix</u>	Redox Features	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
_		
_ <del>_</del>		
<u> </u>		
_		
_ <del>_</del>		
_ <del>_</del>		
_		
_ <del>_</del>		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=F	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> :
Histosol (A1)	☐ Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147,	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	☐ Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	
☐ Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 148	wetland hydrology must be present,
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147)	unless disturbed or problematic.
Restrictive Layer (if observed): Yes		
Type:		
Depth (inches):		Hydric Soil Present? Yes No X
Remarks:	<u> </u>	
	LIS DOE rootrictions in area. Sails actimated due	to restriction based on relative topography and plant
species.	105 DOE restrictions in area. Soils estimated due	to restriction based on relative topography and plant
oposioo.		

# Wetland AS-006

Project/Site: Arboles Station a	and Transmi	ssion Li	ines Pro	oject City/	County. Pike	County		Sampling	Date: 01/21	1/2021	
Applicant/Owner: AEP				Oity/			State: OH	Samplin	a Point <sup>. W-B</sup>	BAO-012121-04	
Investigator(s): BAO, JFW				Sect	ion, Township			oumplii	.g r o		
Landform (hillslope, terrace, etc	c )· Swale								Slone (%	 .). 1	
Subregion (LRR or MLRA): <u>LR</u>				9.01328	,	Long.	-83	.01067	Datum: W	GS 84	
Soil Map Unit Name: UoA: Urb											
Are climatic / hydrologic conditi											
Are Vegetation, Soil				-			Circumstances"		es X	No	
Are Vegetation , Soil							cplain any answe				
, con	_, 01 119	arology	-	_ natarany problem	idio: (	ii riocaca, cx	cpiani arry arrow	oro irr reciriai	1.0.)		
SUMMARY OF FINDING	GS – Atta	ach si	te ma	p showing sar	npling poi	nt locatior	ns, transects	s, importa	ant featur	res, etc.	
					<del></del>			•			
Hydrophytic Vegetation Prese	ent?			No	Is the Sam	pled Area	X				
Hydric Soil Present?				No	within a W	etland?	Yes	No			
Wetland Hydrology Present?		Yes _	<u>X</u>	No							
Remarks:		_									
PEM wetland fed by a culvert	and drains t	to Pond	AS-00	1.							
HYDROLOGY											
								-4 (	6 h		
Wetland Hydrology Indicato						<u>:</u> 	Secondary Indic	•		<u>equirea)</u>	
Primary Indicators (minimum	of one is red	quirea;			(5.4.1)	<u> </u>	Surface Soi	-		(5.0)	
Surface Water (A1)				rue Aquatic Plants		<u> </u>	Sparsely Ve			ce (B8)	
High Water Table (A2)				ydrogen Sulfide O		i	Drainage Pa		)		
Saturation (A3)				xidized Rhizosphe	_	Roots (C3)   	Moss Trim L		(00)		
Water Marks (B1)			$\overline{}$	resence of Reduce	, ,	" (00)	Dry-Season		e (C2)		
Sediment Deposits (B2)			=	ecent Iron Reducti		olis (C6) <u>I</u> I	Crayfish Bu			(00)	
Drift Deposits (B3)			_	hin Muck Surface (		<u> </u> 	Saturation \			/ (C9)	
Algal Mat or Crust (B4)			Шο	ther (Explain in Re	emarks)	.l 1	Stunted or S				
Iron Deposits (B5)		(DZ)				J.	Geomorphic	,	2)		
Inundation Visible on Aer		(B7)				<u>.l</u> [	Shallow Aqu		(D.4)		
								Microtopographic Relief (D4) FAC-Neutral Test (D5)			
Aquatic Fauna (B13)						<u>[</u>	FAC-Neutra	l Test (D5)			
Field Observations:	V				4.00						
Surface Water Present?				Depth (inches):							
Water Table Present?				Depth (inches):							
Saturation Present?	Yes X	No _		Depth (inches):	0.00	Wetland Hy	drology Prese	nt? Yes_	X No	·	
(includes capillary fringe)  Describe Recorded Data (stre	eam gauge	monito	ring we	Il aerial photos pr	evious inspect	tions) if avail	able <sup>.</sup>				
20000 . 1000	rain gaage,		9	, шолы рлоков, р.		,,					
Remarks:											
Remarks.											

EGETATION (Five Stra	ıta) – Us	e scientific n	ames of p	plants.		Sampling Point: W-BAO-012121-04
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		· ·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2						Total Number of Dominant
3						Species Across All Strata: 3 (B)
4						Develope of Deminent Charles
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of	total cover:0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:	4	)		10101 55		OBL species x 1 =0
Platanus occidentalis		/	20	Υ	FACW	FACW species110 x 2 =220
2						FAC species 10 x 3 = 30
3						FACU species 0 x 4 = 0
						UPL species0 x 5 =0
4 5						Column Totals:120 (A)250 (B)
0						Prevalence Index = B/A = 2.08
0				= Total Cove		Hydrophytic Vegetation Indicators:
	=00/	46				X 1 - Rapid Test for Hydrophytic Vegetation
		total cover:10	) 20% of	total cover:	4	X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1						
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation¹ (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6			- ——			be present, unless disturbed or problematic.
			:	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of	total cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	)				approximately 20 ft (6 m) or more in height and 3 in.
1. Juncus effusus			30	Y	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Phalaris arundinacea			60	Y	FACW	Sapling – Woody plants, excluding woody vines,
3. Dichanthelium clandestinu	m		10	N	FAC	approximately 20 ft (6 m) or more in height and less
4			- 	-		than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						it (1 m) in neight.
11.						Woody vine – All woody vines, regardless of height.
			100	= Total Cove	er	
	50% of	total cover: 50				
184 - the Min a Chinate me (Diet ein		total cover: <u>50</u> 30' )	/ ZU% Ui	total cover.		
Woody Vine Stratum (Plot siz		/				
_						
2						
3						
4			- ——			
5						Hydrophytic
			:	= Total Cove	er	Vegetation
	50% of	total cover: 0	20% of	total cover:	0	Present? Yes X No
Remarks: (Include photo num	bers here	or on a separate	sheet.)			

Sampling Point: W-BAO-012121-04

epth	Matrix	%		K Features		Loc <sup>2</sup>	Tandona	Damanka
nches)	Color (moist)		Color (moist)	<u>%</u> 10	Type <sup>1</sup> C		Texture	Remarks
0 — 10	10YR 4/2	90 -	10YR 6/8			M	Silty clay loam	
_								
_			_					
_								
_								
								-
								-
	ncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		L=Pore Lining, M=Matrix.
_	ndicators:							ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (			Dark Surface		- (00) (1)	U DA 447		cm Muck (A10) (MLRA 147)
I Histic Epi Black His	ipedon (A2)		Polyvalue Be				148) <u> </u>	Coast Prairie Redox (A16)
=	n Sulfide (A4)		☐ Thin Dark Su☐ Loamy Gleye			47, 140)	Пь	(MLRA 147, 148) riedmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Mat		2)		<u>—</u> ·	(MLRA 136, 147)
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)		□v	ery Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Dar	,	,			Other (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Depre	ssions (F8	)			
-	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangane		s (F12) <b>(</b> I	_RR N,		
_	147, 148)		MLRA 136	•			2	
	eyed Matrix (S4)		Umbric Surfa					icators of hydrophytic vegetation and
	nday (SE)		Piedmont Flo	odplain Sc	ils (F19)	(MLRA 14		tland hydrology must be present,
Sandy Re					4) (8.01 5)		• • • • • • • • • • • • • • • • • • • •	
Stripped	Matrix (S6)		Red Parent M		21) <b>(MLR</b>	4 127, 147	<b>')</b> un	less disturbed or problematic.
Stripped estrictive L		No			21) <b>(MLR</b>	A 127, 147	') un	less disturbed or problematic.
Stripped estrictive L	Matrix (S6) ayer (if observed):	No			21) <b>(MLR</b>	A 127, 147		
Stripped estrictive L Type: Depth (inc	Matrix (S6) ayer (if observed):	No			21) <b>(MLR</b>	<b>4</b> 127, 147	Hydric Soil	
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) <b>(MLR</b>	A 127, 147		
Stripped estrictive L Type: Depth (ince	Matrix (S6) ayer (if observed):		Red Parent M	faterial (F2	21) <b>(MLR</b>	<b>4 127, 14</b> 7		
Stripped estrictive L Type: Depth (ince	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4 127, 14</b> 7		
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) <b>(M</b> LR	<b>4 127, 14</b> 7		
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) <b>(M</b> LR	<u>4 127, 147</u>		
Stripped estrictive L Type: Depth (inc	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4 127, 14</b> 7		
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4 127, 14</b> 7		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4 127, 14</b> 7		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4</b> 127, 147		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	<u>4 127, 147</u>		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<u>4 127, 147</u>		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4</b> 127, 147		
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4</b> 127, 147		
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR	<b>4</b> 127, 147		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	A 127, 147		
Stripped estrictive L Type: Depth (inc	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	<u>4 127, 147</u>		
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	<u>4 127, 147</u>		
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	<u>4 127, 147</u>		
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	A 127, 147		
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	A 127, 147		
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	A 127, 147		
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Red Parent M	faterial (F2	21) (MLR.	A 127, 147		

# Upland AS-006 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station	and Transn	nission I	ines Project	C:+/C	County: Pike County		Committee	Date: 01/21/2	021
· ·		111001011 E	ines i roject	City/C	county:	Otata OH	Sampling	j Date: ing Point: <sup>U-BAO</sup>	-012121-04
Applicant/Owner: AEP				0 "	T 1: D			ing Point: 5 2/13	
Investigator(s): BAO, JFW	Hilloide				on, Township, Range:			21 (21)	2
Landform (hillslope, terrace, e					ief (concave, convex,				
Subregion (LRR or MLRA): <u>L</u>					Long:				04
Soil Map Unit Name: UoA: Ur								-1	
Are climatic / hydrologic condi									
Are Vegetation <u>√</u> , Soil _						nal Circumstances			ງ
Are Vegetation , Soil	_, or H	lydrology	/ natural	ly problema	atic? (If needed	d, explain any ans	wers in Rema	arks.)	
SUMMARY OF FINDIN	IGS – Att	tach si	ite map show	ving san	npling point loca	tions, transec	ts, import	tant features	s, etc.
Hydrophytic Vegetation Pres	sent?	Yes_	No	<	Is the Sampled Are	a		V	
Hydric Soil Present?		Yes	No_X	(	within a Wetland?	Yes	No _		
Wetland Hydrology Present?	?	Yes _	No <u>X</u>	<u>(                                     </u>					
Remarks:									
Upland point associated with	W-BAO-01	2121-04	ļ						
vegetation mowed									
HYDROLOGY									
Wetland Hydrology Indicat	tors:					Secondary Ind	icators (minir	mum of two req	uired)
Primary Indicators (minimum	n of one is r	equired;	check all that ap	ply)		_ 🔲 Surface S	oil Cracks (B	6)	
Surface Water (A1)			True Aqua	itic Plants (	(B14)	☐ Sparsely \	/egetated Cc	ncave Surface	(B8)
High Water Table (A2)			Hydrogen	Sulfide Od	or (C1)	☐ Drainage I	Patterns (B10	0)	
Saturation (A3)			Oxidized F	Rhizospher	es on Living Roots (C	3) 🔲 Moss Trim	Lines (B16)		
Water Marks (B1)			Presence	of Reduced	d Iron (C4)	☐ Dry-Seaso	on Water Tab	ole (C2)	
Sediment Deposits (B2)	)		Recent Iro	n Reductio	on in Tilled Soils (C6)	Crayfish B	Burrows (C8)		
Drift Deposits (B3)			Thin Muck	Surface (0	C7)	Saturation	Visible on A	erial Imagery (0	29)
Algal Mat or Crust (B4)			Other (Exp	olain in Rer	marks)	Stunted or	r Stressed Pla	ants (D1)	
Iron Deposits (B5)						Geomorph	nic Position ([	D2)	
Inundation Visible on A	erial Imager	y (B7)				Shallow A	quitard (D3)		
Water-Stained Leaves (	B9)					Microtopo	graphic Relie	ef (D4)	
Aquatic Fauna (B13)						FAC-Neut	ral Test (D5)		
Field Observations:									
Surface Water Present?	Yes	No	X Depth (in	ches):					
Water Table Present?			X Depth (inc						
Saturation Present?	·		X Depth (in			d Hydrology Pres	sent? Yes	No	X
(includes capillary fringe)									
Describe Recorded Data (str	ream gauge	e, monito	ring well, aerial p	photos, pre	evious inspections), if a	available:			
Remarks:									

EGETATION (Five Strata	a) – Use s	cientific na	mes of p	olants.		Sampling Point: U-BAO-012121-04
	301			Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		-		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tota	I cover: 0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 /0 01	total cover.		OBL species 0 x 1 = 0
						FACW species0 x 2 =0
1						FAC species40 x 3 =120
2						FACU species10 x 4 =40
3						UPL species0 x 5 =0
4						Column Totals: (A) (B)
5						Prevalence Index = B/A = 3.2
6				= Total Cove		Hydrophytic Vegetation Indicators:
						1 - Rapid Test for Hydrophytic Vegetation
		I cover: 0	20% of	total cover:	0	<u> </u>
Shrub Stratum (Plot size:	15'	)				2 - Dominance Test is >50%
1						3 - Prevalence Index is ≤3.0 <sup>1</sup>
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation¹ (Explain)
4						Froblematic Hydrophytic vegetation (Explain)
5						10. 41-stars of hadringsall and watland hydrology must
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			=	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of tota	I cover: 0	20% of	total cover:	0	_
Herb Stratum (Plot size:				1010 00 / 0 <u> </u>		Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Dichanthelium clandestinum		,	30	Υ	FAC	(7.6 cm) or larger in diameter at breast height (DBH).
a Allium canadanas			40	N	FACU	
Setaria pumila			10		FAC	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
4. Poa sp.			50			than 3 in. (7.6 cm) DBH.
						Charles Westernhauften und die eine der
5						Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6						
7						Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8						plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						woody vines 7 in woody vines, regardless of neight.
			100=	= Total Cove	ər	
	50% of total	l cover: <u>50</u>	20% of	total cover:	20	
Woody Vine Stratum (Plot size:	30'	)				
1		·				
2						
3						
٥						
+						
5			0 =			Hydrophytic
				= Total Cove		Vegetation   Present?   Yes No X
	50% of total	I cover: 0	20% of	total cover:	0	resent: resNo
Remarks: (Include photo number	ers here or o	n a separate sh	neet.)			

Sampling Point: U-BAO-012121-04

epth	Matrix	%		x Features		Loc <sup>2</sup>	T-1.41	Damanka
nches)	Color (moist)	<del></del> _	Color (moist) 10YR 4/6	<u>%</u> 20	Type <sup>1</sup> C	Loc	<u>Texture</u>	Remarks
<u> </u>	10YR 4/3		1018 4/6			IVI	Silty clay loam	
_								
							•	
_								
								-
	ncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
	ndicators:							ators for Problematic Hydric Soils <sup>3</sup>
Histosol (			Dark Surface		- (00) (8)			cm Muck (A10) (MLRA 147)
Black His	pedon (A2)		Polyvalue Be Thin Dark Su				148) C	Coast Prairie Redox (A16) (MLRA 147, 148)
	Sulfide (A4)		Loamy Gleye			47, 140)	ПР	Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Mat	•	_,		<u> </u>	(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark S		3)		□ ∨	/ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar	k Surface	(F7)			Other (Explain in Remarks)
	rk Surface (A12)		Redox Depre					
	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangan		s (F12) <b>(</b> I	_RR N,		
MIRA	147, 148)		MLRA 130	2)				
_						\	3.	
Sandy Gl	eyed Matrix (S4)		Umbric Surfa	ce (F13) <b>(</b> I				licators of hydrophytic vegetation and
Sandy Gl Sandy Re	eyed Matrix (S4) edox (S5)		☐ Umbric Surfa ☐ Piedmont Flo	ce (F13) <b>(I</b> odplain Sc	ils (F19)	(MLRA 14	<b>8)</b> we	etland hydrology must be present,
Sandy Gl Sandy Re Stripped l	eyed Matrix (S4) edox (S5) Matrix (S6)	No	Umbric Surfa	ce (F13) <b>(I</b> odplain Sc	ils (F19)	(MLRA 14	<b>8)</b> we	
Sandy Gl Sandy Re Stripped I strictive La	eyed Matrix (S4) edox (S5)	No	☐ Umbric Surfa ☐ Piedmont Flo	ce (F13) <b>(I</b> odplain Sc	ils (F19)	(MLRA 14	<b>8)</b> we	etland hydrology must be present,
Sandy GI Sandy Re Stripped I strictive Le Type:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):	No	☐ Umbric Surfa ☐ Piedmont Flo	ce (F13) <b>(I</b> odplain Sc	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I strictive Le Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):	No	☐ Umbric Surfa ☐ Piedmont Flo	ce (F13) <b>(I</b> odplain Sc	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present,
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I strictive Le Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I strictive Le Type: Depth (inclease)	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I strictive Le Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive L Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I Strictive La Type: Depth (incl	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I strictive L Type: Depth (incl marks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy GI Sandy Re Stripped I strictive Le Type: Depth (inclease)	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent M	ce (F13) <b>(I</b> odplain Sc Material (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.

# Wetland AS-007 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station a	and Transmission	Lines Project	City/C	County: Pike Co	ounty		Compling I	Date: 01/22/2021
•	Transmission	Ellioo i rojoot	City/C	Jounty:				Date: g Point: <sup>W-BAO-012221-01</sup>
Applicant/Owner: AEP Investigator(s): BAO, JFW			0 "				_ Samplin	g Point:
	Culob or Culb	,		ion, Township, F				
Landform (hillslope, terrace, et	•							
Subregion (LRR or MLRA): LF								Datum: WGS 84
Soil Map Unit Name: UoA: Urb								
Are climatic / hydrologic condit								V
Are Vegetation, Soil		-	-		e "Normal Ci	ircumstances" p	resent? Ye	es <u>X</u> No
Are Vegetation , Soil	_, or Hydrolog	yynatura	ally problem	atic? (If	needed, exp	lain any answe	rs in Remar	ks.)
SUMMARY OF FINDIN	GS – Attach s	site map sho	wing san	mpling point	t locations	s, transects	, importa	nt features, etc.
Hydrophytic Vegetation Pres	ent? Yes	X No		Is the Sampl	lad Araa			
Hydric Soil Present?		X No		within a Wet		YesX	No	
Wetland Hydrology Present?		X No						
Remarks:								
PEM linear wetland in maintai	ned transmission	line ROW, betwe	een two buil	It up mounds				
HYDROLOGY								
Wetland Hydrology Indicate	ors:				Se	econdary Indica	tors (minim	um of two required)
Primary Indicators (minimum		check all that a	nnly)		Ē	Surface Soil	,	
Surface Water (A1)	or one is required		atic Plants (	(B14)	<u></u>	_		cave Surface (B8)
High Water Table (A2)		_	n Sulfide Od			7		
					=	7		
Saturation (A3)		_		res on Living Ro		Moss Trim Li		(00)
Water Marks (B1)			of Reduce		- (00) <u> </u>	Dry-Season		e (C2)
Sediment Deposits (B2)				on in Tilled Soils	s (C6) <u>L</u>	Crayfish Buri		······································
Drift Deposits (B3)		_	k Surface (0	•	<u> </u>	=		rial Imagery (C9)
Algal Mat or Crust (B4)		U Other (Ex	xplain in Rei	marks)	<u> </u>	Stunted or S		
Iron Deposits (B5)					<u> </u>	Geomorphic		2)
Inundation Visible on Ae					<u> </u>	ຼ່ Shallow Aqui		
Water-Stained Leaves (E	39)				<u> </u>			(D4)
Aquatic Fauna (B13)					<u>[√</u>	☐ FAC-Neutral	Test (D5)	
Field Observations:	.,							
Surface Water Present?		Depth (i						
Water Table Present?	Yes X No	Depth (i	nches):	5.00				
Saturation Present?	Yes No	X Depth (i	nches):	\	Wetland Hyd	drology Presen	it? Yes _	X No
(includes capillary fringe)						L.L.		
Describe Recorded Data (stre	am gauge, monit	oring well, aeria	i pnotos, pre	evious inspectio	ons), ii avaliai	bie:		
Remarks:								

EGETATION (Five Stra	ta) – Use	scientific na	ames of p	olants.		Sampling Point: W-BAO-012221-01
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
			=	= Total Cove	er e	Prevalence Index worksheet:
	50% of to	otal cover: 0	20% of	total cover:	0	
Sapling Stratum (Plot size:			_		_	OBL species 0 x 1 = 0 FACW species 90 x 2 = 180
1						
2						
3						1 ACO species
4						UPL species 0 x 5 = 0
5						Column Totals: 90 (A) 180 (B)
6						Prevalence Index = B/A = 2.00
				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of to	otal cover: 0				X 1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		Nai cover	20 /0 01	luiai cover.		X 2 - Dominance Test is >50%
`		/				$\frac{X}{2}$ 3 - Prevalence Index is $\leq 3.0^{1}$
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				T-+-1 C		be present, unless disturbed or problematic.
				= Total Cove		Definitions of Five Vegetation Strata:
		otal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
				N	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Equisetum hyemale			10	N	FACW	Sapling – Woody plants, excluding woody vines,
3. Juncus effusus			30	Y	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Eupatorium perfoliatum			20	Y	FACW	tilati 3 iii. (7.0 ciii) DDT.
5. Cyperus esculentus			10	N	FACW	Shrub – Woody plants, excluding woody vines,
6. Carex cristatella			10	<u>N</u>	FACW	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Manada All woody vinos regardless of height
11						Woody vine – All woody vines, regardless of height.
			90 :	= Total Cove	er	
	50% of to	otal cover: 45	20% of	total cover:	18	
Woody Vine Stratum (Plot size		0' )		-		
1						
2						
3						
4						
5.						
J			0 :	= Total Cove		Hydrophytic
	-384 8,	. 0				Vegetation Present?  Yes X No
		otal cover: 0		total cover:		1100
Remarks: (Include photo numb	pers here o	r on a separate s	heet.)			

Sampling Point: W-BAO-012221-01

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the ir	ndicator	or confirm	the absence	of indicator	rs.)	
Depth	Matrix			Features						
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
<u>0 — 10</u>	10YR 4/2	90	5YR 4/6	10			Silty clay			
_										
					·					
_										
_										
1- 0.0							2			
	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: Pl			dria Caila <sup>3</sup> .
Hydric Soil I				(07)					oblematic Hy	
Histosol			Dark Surface		- (OO) (T)	U DA 447		•	.10) <b>(MLRA 1</b> 4	+/)
	ipedon (A2)		Polyvalue Bel				148) <u> </u>		Redox (A16)	
Black His	มเต (A3) า Sulfide (A4)		☐ Thin Dark Sur☐ Loamy Gleyed			47, 148)	Пь	(MLRA 147	r <b>, 148)</b> odplain Soils (	E10\
	Layers (A5)		✓ Depleted Mate		-2)		<u> </u>	(MLRA 136		r 19)
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)				Dark Surface	(TE12)
	Below Dark Surface	(A11)	Depleted Dark	`	,		_	•	n in Remarks)	, ,
	rk Surface (A12)	(* /	Redox Depres		. ,			( <u></u> ,q_,	,,	
	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangane			LRR N,				
	147, 148)	•	MLRA 136		( ) (	•				
	leyed Matrix (S4)		Umbric Surface		MLRA 13	6, 122)	<sup>3</sup> Ind	icators of hy	drophytic vege	etation and
	edox (S5)		Piedmont Floo					-	ogy must be p	
Stripped	Matrix (S6)		Red Parent M	aterial (F2	21) <b>(MLR</b>	A 127, 147	<b>')</b> unl	less disturbe	d or problema	atic.
Restrictive L	ayer (if observed):	No								
Type:										
Depth (inc	hes):		<del></del>				Hydric Soil	Present?	Yes X	No
Remarks:	,		<del>-</del>				· · <b>J</b>			
	nt of Energy property	does not all	ow digging past 12	,"						
			999							

## Upland AS-007

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station a	and Transmission	Lines Project	City/County: P	ike County	San	nnling Date: 01	/22/2021
Applicant/Owner: AEP		·	only/obunity		State: OH S	Sampling Point	U-BAO-012221-01
Investigator(s): BAO, JFW			Section, Towns	shin Range <sup>.</sup> S.7	T 4N R 22W	amping round	
Landform (hillslope, terrace, et	 c )· Hillside		Local relief (conca	ive convex none	e). Convex	Slone	<i>(</i> %)⋅ 1
Subregion (LRR or MLRA): <u>LF</u>	8R N	Lat: 39.01056	20001101101 (001100	Long.	-83.0121	0 Datum:	WGS 84
Soil Map Unit Name: UoA: Urb							
Are climatic / hydrologic condit							
Are Vegetation, Soil	-				Circumstances" prese	•	No
Are Vegetation , Soil,					kplain any answers in		110
7 to Vogotation , Con	_, or riyurolog		y problematio:	(II Necded, c)	cpiant arry arrowers in	rtomarto.)	
SUMMARY OF FINDING	GS - Attach s	site map show	ing sampling p	oint location	ns, transects, im	portant fea	tures, etc.
		-				<u>-                                      </u>	
Hydrophytic Vegetation Prese		NoX	Is the S	ampled Area		X	
Hydric Soil Present?	Yes_	NoX	within a	a Wetland?	Yes	No	
Wetland Hydrology Present?	Yes_	No <u>X</u>					
Remarks:							
Upland point associated with	N-BAO-012221-0	1					
HYDROLOGY							
Wetland Hydrology Indicate	nrs:				Secondary Indicators	(minimum of tw	o required)
Primary Indicators (minimum		l: check all that an	alv)	<u>.</u>	Surface Soil Crac		o required)
Surface Water (A1)	or one is required		tic Plants (B14)	i	Sparsely Vegetate		rfaco (BR)
High Water Table (A2)		_	Sulfide Odor (C1)	J	Drainage Patterns		illace (Do)
Saturation (A3)			hizospheres on Livi	ng Poots (C3)	Moss Trim Lines		
Water Marks (B1)			of Reduced Iron (C4		Dry-Season Wate		
Sediment Deposits (B2)			n Reduction in Tilled	, i	Crayfish Burrows		
Drift Deposits (B3)		_	Surface (C7)		Saturation Visible		erv (C9)
Algal Mat or Crust (B4)		_	lain in Remarks)	Ī	Stunted or Stress	_	, , ()
Iron Deposits (B5)		` ` '	,		Geomorphic Posi		
Inundation Visible on Aer	rial Imagery (B7)			j	Shallow Aquitard	(D3)	
Water-Stained Leaves (E	39)				Microtopographic	Relief (D4)	
Aquatic Fauna (B13)				j	FAC-Neutral Test	t (D5)	
Field Observations:							
Surface Water Present?	Yes No	X Depth (inc	:hes):				
Water Table Present?	Yes No	X Depth (inc	:hes):				
Saturation Present?		X Depth (inc		Wetland Hy	ydrology Present?	Yes	No X
(includes capillary fringe)	<del></del>						
Describe Recorded Data (stre	∍am gauge, monit	oring well, aerial p	notos, previous ins	pections), if avail	able:		
Remarks:							

EGETATION (Five Strata	a) – Use	scientific na	mes of p	olants.		Sampling Point: U-BAO-012221-01
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Persont of Dominant Species
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tot	tal cover: 0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 70 01	total oover		OBL species 0 x 1 = 0
						FACW species5 x 2 =10
1						FAC species40 x 3 =120
2						FACU species70 x 4 =280
3						UPL species0 x 5 =0
4						Column Totals:115 (A)410 (B)
5						Prevalence Index = R/A = 3.57
6				= Total Cove		Prevalence Index = B/A = 3.57  Hydrophytic Vegetation Indicators:
						1 - Rapid Test for Hydrophytic Vegetation
		tal cover: 0	20% of	total cover:	0	_ , , , , , ,
Shrub Stratum (Plot size:	15'	)				2 - Dominance Test is >50%
1						3 - Prevalence Index is ≤3.0 <sup>1</sup>
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation¹ (Explain)
4						Frobletilatic Hydrophytic vegetation (Explain)
5						10 diseases of headrin pail and watland hydrology must
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			0 =	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of tot	tal cover: 0	20% of	total cover:	0	
Herb Stratum (Plot size:		1				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Asclepias syriaca		- /	10	N	FACU	(7.6 cm) or larger in diameter at breast height (DBH).
Pycnanthemum virginianum				N	FAC	
Setaria pumila			30	Y	FAC	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Equisetum hyemale				N	FACW	than 3 in. (7.6 cm) DBH.
Schedonorus arundinaceus			60	NY	FACU	Shrub – Woody plants, excluding woody vines.
_					17.00	approximately 3 to 20 ft (1 to 6 m) in height.
6						
7						Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8						plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						**************************************
			115=	= Total Cove	er	
	50% of tot	tal cover: 58	20% of	total cover:	23	
Woody Vine Stratum (Plot size:	30	<u>'</u> )				
1						
2						
3						
4						
5			0 =	T: 1-1 Co.		Hydrophytic
		_		= Total Cove		Vegetation Present? Yes No X
	50% of tot	tal cover: 0	20% of	total cover:	0	Pleseitt: 165 NO
Remarks: (Include photo number	ers here or	on a separate sh	neet.)			

Sampling Point: U-BAO-012221-01

epth _	Matrix	<u></u> %		x Features		Loc <sup>2</sup>	Tanduna	Damanica
nches)	Color (moist)	<del></del>	Color (moist) 10YR 5/6	<u>%</u> 30	Type <sup>1</sup> C	Loc M	<u>Texture</u>	Remarks
<u> </u>	10YR 4/3		1018 5/6				Silty clay loam	
_								
_								
								-
<del>-</del>								
_								
			_					
							<del></del>	
<u> </u>								
	ncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		L=Pore Lining, M=Matrix.
dric Soil In	ndicators:						Indica	ators for Problematic Hydric Soils
Histosol (	·		Dark Surface					cm Muck (A10) (MLRA 147)
	pedon (A2)		Polyvalue Be				148) <u> </u>	Coast Prairie Redox (A16)
Black Hist			Thin Dark Su			47, 148)		(MLRA 147, 148)
	Sulfide (A4)		Loamy Gleye	•	-2)		<u> </u>	Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Mat		O)			(MLRA 136, 147)
	ck (A10) <b>(LRR N)</b> Below Dark Surface	(Λ11)	Redox Dark S Depleted Dar	•	,			ery Shallow Dark Surface (TF12) Other (Explain in Remarks)
	k Surface (A12)	(A11)	Redox Depre					oner (Explain in Remarks)
	ucky Mineral (S1) <b>(L</b>	RR N	☐ Iron-Mangane			RR N		
	147, 148)	ixix iv,	MLRA 130		,5 (i 12) <b>(</b> i	_1010 14,		
_				-,			_	
. Curius Ol	eved Matrix (S4)		Umbric Surfa	ce (F13) (I	<b>MLRA 13</b>	6. 122)	<sup>3</sup> Ind	licators of hydrophytic vegetation an
	eyed Matrix (S4) edox (S5)		<ul><li>☐ Umbric Surfa</li><li>☐ Piedmont Flo</li></ul>					licators of hydrophytic vegetation an etland hydrology must be present,
Sandy Re			Umbric Surfa Piedmont Flo Red Parent M	odplain So	oils (F19)	(MLRA 14	<b>8)</b> we	licators of hydrophytic vegetation an etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped M	edox (S5)	No	Piedmont Flo	odplain So	oils (F19)	(MLRA 14	<b>8)</b> we	etland hydrology must be present,
Sandy Re Stripped I	edox (S5) Matrix (S6)	No	Piedmont Flo	odplain So	oils (F19)	(MLRA 14	<b>8)</b> we	etland hydrology must be present,
Sandy Re Stripped Nestrictive La	edox (S5) Matrix (S6) ayer (if observed):	No	Piedmont Flo	odplain So	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N strictive La Type: Depth (inch	edox (S5) Matrix (S6) ayer (if observed):	No	Piedmont Flo	odplain So	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Nestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Nestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Nestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch marks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch marks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Nestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Mestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Mestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped Nestrictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inchemarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch marks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped N Strictive La Type: Depth (inch marks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain So Material (F2	oils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.

# Wetland AS-008 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station a	and Transmission Lin	es Proiect City/C	county: Pike County	Sampling Date:	/2021
Applicant/Owner: AEP		City/C	ounty	Sampling Date _ State: OH Sampling Point: W-BA	
Investigator(s): BAO, JFW		Contin	on, Township, Range: S		
	o v. Swale			ne): Concave Slope (%)	. 1
Subregion (LRR or MLRA): <u>LF</u>		Local reli	lei (concave, convex, no	-83.01237 Datum: WG	· <u>'</u> S 84
		unlay 0 to 6 parcent clans	Long:	NWI classification: N/A	<del>,0 04</del>
Are climatic / hydrologic condit		•			
				Circumstances" present? Yes X	No
Are Vegetation , Soil _	_, or Hydrology <sub>_</sub>	_ naturally problema	atic? (If needed,	explain any answers in Remarks.)	
SUMMARY OF FINDING	GS – Attach site	e map showing sam	pling point location	ons, transects, important feature	es, etc.
Hydrophytic Vegetation Prese	ent? Yes	X No	Is the Sampled Area		
Hydric Soil Present?		X No	within a Wetland?	Yes No	
Wetland Hydrology Present?		X No			
Remarks:					
PEM wetland in t-line ROW					
HYDROLOGY					
Wetland Hydrology Indicate	 ors:			Secondary Indicators (minimum of two re	guired)
Primary Indicators (minimum		neck all that apply)		Surface Soil Cracks (B6)	-
Surface Water (A1)		True Aquatic Plants (	B14)	Sparsely Vegetated Concave Surface	e (B8)
High Water Table (A2)		Hydrogen Sulfide Od	•	Drainage Patterns (B10)	- ()
Saturation (A3)			es on Living Roots (C3)	Moss Trim Lines (B16)	
Water Marks (B1)	j	Presence of Reduced		Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Recent Iron Reductio		Crayfish Burrows (C8)	
Drift Deposits (B3)		Thin Muck Surface (C		Saturation Visible on Aerial Imagery	(C9)
Algal Mat or Crust (B4)		Other (Explain in Rer	·	Stunted or Stressed Plants (D1)	` '
Iron Deposits (B5)			,	Geomorphic Position (D2)	
Inundation Visible on Aer	rial Imagery (B7)			Shallow Aquitard (D3)	
Water-Stained Leaves (E				Microtopographic Relief (D4)	
Aquatic Fauna (B13)	,			FAC-Neutral Test (D5)	
Field Observations:					
Surface Water Present?	Yes No )	C Depth (inches):			
Water Table Present?			4.00		
Saturation Present?		Верит (птопев)		Hydrology Present? Yes X No	
(includes capillary fringe)	165 <u>/ NO</u> NO	Deptit (inches)	wedand	Tydrology Fresent: Tes No	
Describe Recorded Data (stre	am gauge, monitorir	ng well, aerial photos, pre	vious inspections), if ava	ilable:	
Remarks:					

/EGETATION (Five Strata) – Use scientific names of plants.						Sampling Point: W-BAO-012221-02
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
			=	= Total Cove	ər	Prevalence Index worksheet:
	50% of to	otal cover: 0	20% of	total cover:	0	
Sapling Stratum (Plot size:			_		_	OBE species
1						
2						_
3						1 ACO species X 4
4						UPL species 0 x 5 = 0
5						Column Totals:120 (A)220 (B)
6						Prevalence Index = B/A = 1.83
<u> </u>				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of to	otal cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		\ \	20 /0 01	luiai cover.		X 2 - Dominance Test is >50%
,		/				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation¹ (Explain)
5						
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			:	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of to	otal cover: 0	20% of	total cover:	0	Tree Weedy plants evaluding woody vines
Herb Stratum (Plot size:	5'	_)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. Eupatorium perfoliatum			20	N	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Typha angustifolia			30	Y	OBL_	Sapling – Woody plants, excluding woody vines,
3. Mimulus ringens			10	N	OBL_	approximately 20 ft (6 m) or more in height and less
4. Dichanthelium clandestinum	1		20	N	_FAC	than 3 in. (7.6 cm) DBH.
5. Juncus effusus			10	N	FACW	Shrub – Woody plants, excluding woody vines,
6. Carex squarrosa			30	Y	FACW	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						
11						Woody vine – All woody vines, regardless of height.
			120 :	= Total Cove	er	
	50% of to	otal cover: 60	20% of	total cover:	24	
Woody Vine Stratum (Plot size			<u> </u>	_		
1	•					
2						
3						
4						
5			0 :	- Total Cov		Hydrophytic
				= Total Cove		Vegetation Present?  Yes X No
		otal cover: 0		total cover:	0	103
Remarks: (Include photo numb	ers here o	r on a separate s	heet.)			

Sampling Point: W-BAO-012221-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth <u>Matrix</u>		Features	1 3						
(inches) Color (moist) %	Color (moist)		pe <sup>1</sup> Loc <sup>2</sup>	<u>Texture</u>	Remarks				
<u>0 — 10</u> <u>10YR 4/2</u>	7.5YR 4/6	10	C PL	silty clay loam					
_									
				<del></del>					
_									
<u> </u>									
<u> </u>									
<sup>1</sup> Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, MS	=Masked San	d Grains.	<sup>2</sup> Location: PL	.=Pore Lining, M=Matrix.				
Hydric Soil Indicators:					tors for Problematic Hydric Soils <sup>3</sup> :				
Histosol (A1)	Dark Surface	(S7)		2	cm Muck (A10) <b>(MLRA 147)</b>				
Histic Epipedon (A2)	Polyvalue Bel	ow Surface (S	8) <b>(MLRA 147</b>	, <b>148)</b> 🔲 Co	past Prairie Redox (A16)				
Black Histic (A3)	Thin Dark Su	face (S9) <b>(ML</b>	RA 147, 148)		(MLRA 147, 148)				
Hydrogen Sulfide (A4)	Loamy Gleye			L Pi	edmont Floodplain Soils (F19)				
Stratified Layers (A5)	Depleted Mat				(MLRA 136, 147)				
2 cm Muck (A10) (LRR N)	Redox Dark S	` ,		_	ery Shallow Dark Surface (TF12)				
Depleted Below Dark Surface (A11)	Depleted Dar	, ,		<u> </u>	ther (Explain in Remarks)				
Thick Dark Surface (A12)	Redox Depre		10) (LDD N						
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	☐ Iron-Mangane MLRA 136		12) (LRR N,						
Sandy Gleyed Matrix (S4)	Umbric Surface	•	Δ 136 122)	<sup>3</sup> Indi	cators of hydrophytic vegetation and				
Sandy Redox (S5)			F19) <b>(MLRA 1</b>		tland hydrology must be present,				
Stripped Matrix (S6)			MLRA 127, 14		ess disturbed or problematic.				
Restrictive Layer (if observed): No			•	Í	'				
Type:									
Depth (inches):				Hydric Soil	Present? Yes X No				
Remarks:				Tiyano com	110301K1 103 <u></u> 110 <u></u>				
US Department of Energy property does not	allow digging past 12	)"							
20 Doparanom of Energy property deed not	anow algging pace 12	•							

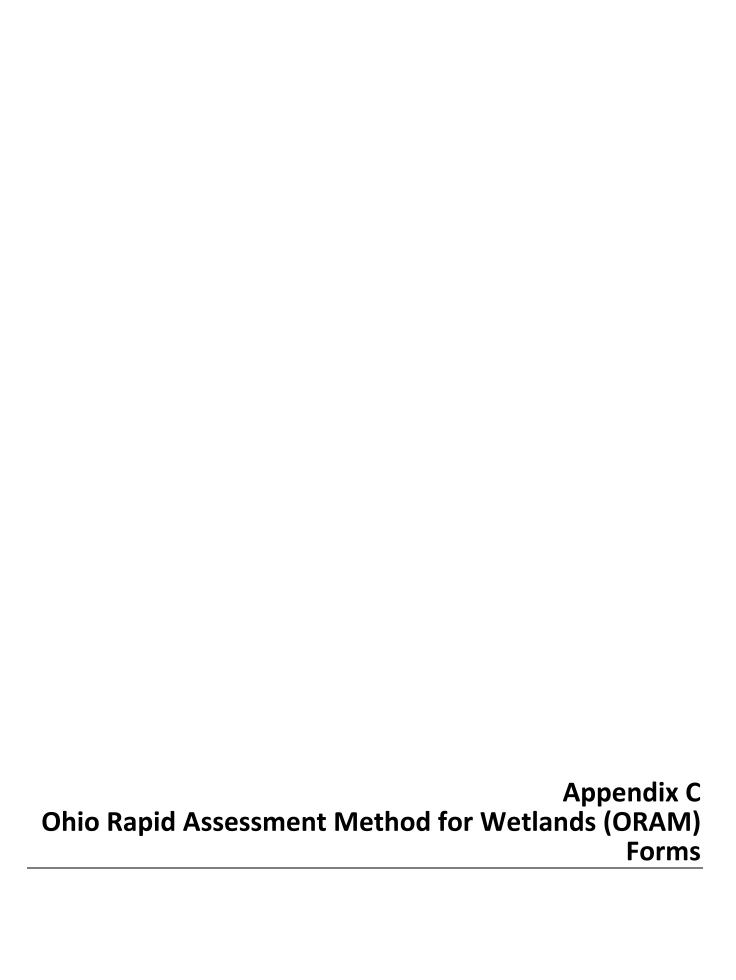
## Upland AS-008 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station	and Transr	nission I	ines Project	0:4(0	ounty: Pike County		C	Date: 01/22/2021
Applicant/Owner: AEP	and Transit	11001011 E		City/C	ounty:	State: OH	_ Sampling L	pate: g Point: <sup>U-BAO-012221-02</sup>
Investigator(s): BAO, JFW		Castia	Taumahin Danna		Sampling	) Politi		
Landform (hillslope, terrace, e	Hilleide				on, Township, Range: ef (concave, convex,			Clara (0/.). 1
· ·					er (concave, convex, Long:			
Subregion (LRR or MLRA): <u>L</u> Soil Map Unit Name: <u>UoA</u> : Ur								Datum: WOO 04
Are climatic / hydrologic condi								ν
Are Vegetation, Soil _						nal Circumstances	•	
Are Vegetation , Soil _	_, or H	lydrology	/natural	ly problema	itic? (If needed	d, explain any ansv	vers in Remark	(S.)
SUMMARY OF FINDIN	IGS – Att	tach si	te map shov	ving sam	pling point loca	tions, transec	ts, importa	nt features, etc.
Hydrophytic Vegetation Pres	sent?	Yes _	No>	<u> </u>	Is the Sampled Are	a		Y
Hydric Soil Present?		Yes _	No	<u>( </u>	within a Wetland?	Yes	No	
Wetland Hydrology Present?	?	Yes _	No <u>&gt;</u>	<u>( </u>				
Remarks:								
Upland point associated with	W-BAO-01	2221-02						
HYDROLOGY								
Wetland Hydrology Indicat	tors:					Secondary Indi	cators (minimu	um of two required)
Primary Indicators (minimum		eauired <sup>.</sup>	check all that an	vlac)			oil Cracks (B6)	• •
Surface Water (A1)	1 01 0110 10 1	oquirou,	_	atic Plants (I	R14)			cave Surface (B8)
High Water Table (A2)			_	Sulfide Odd	·		Patterns (B10)	save canade (Bo)
Saturation (A3)					es on Living Roots (C		Lines (B16)	
Water Marks (B1)				of Reduced	-	. —	n Water Table	(C2)
Sediment Deposits (B2)	1				n in Tilled Soils (C6)		urrows (C8)	(02)
Drift Deposits (B3)				Surface (C				ial Imagery (C9)
Algal Mat or Crust (B4)				plain in Rem	•	_	Stressed Plan	
Iron Deposits (B5)			_ ` ` '		,		ic Position (D2	
Inundation Visible on A	erial Imager	y (B7)					quitard (D3)	,
Water-Stained Leaves (	•	, ,		Microtopographic Relief (D4)				
Aquatic Fauna (B13)	,						ral Test (D5)	
Field Observations:								
Surface Water Present?	Yes	No	X Depth (in	ches).				
Water Table Present?			X Depth (in					
Saturation Present?			X Depth (in	,		d Hydrology Pres	ant? Vas	NoX
(includes capillary fringe)	100	110_	Bopui (iii	onco)		a riyarology r res	ciit. 165 <u>—</u>	
Describe Recorded Data (st	ream gauge	e, monito	ring well, aerial	photos, pre	vious inspections), if a	available:		
Remarks:								

/EGETATION (Five Strata) –	Use scientific na	mes of p	olants.		Sampling Point: U-BAO-012221-02
701			Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:30'1			Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2					Total Number of Dominant
3					Species Across All Strata: 2 (B)
4					Percent of Dominant Species
5					That Are OBL, FACW, or FAC: 50.00 (A/B)
6					
		0 :	= Total Cove	er	Prevalence Index worksheet:
50%	of total cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:  OBL species 0 v.1 = 0
Sapling Stratum (Plot size:			-	,	OBE 3pecies X 1 =
1					17.6W species X2
2					1 A0 species X 0
3					17.00 species x +
4					UPL species 0 x 5 = 0
5					Column Totals:110 (A)380 (B)
6					Prevalence Index = B/A =3.45
-			= Total Cove	 er	Hydrophytic Vegetation Indicators:
E00/.	of total cover: 0				1 - Rapid Test for Hydrophytic Vegetation
	ortotal cover 5')	20% 01	iolai cover.		2 - Dominance Test is >50%
•	·				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1					4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2					data in Remarks or on a separate sheet)
3					Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4					
5					<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6			= Total Cove		be present, unless disturbed or problematic.
					Definitions of Five Vegetation Strata:
-	of total cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 5'	)			E4011	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
				FACU	(7.0 cm) of larger in diameter at breast height (DBH).
2. Dichanthelium clandestinum		50	Y	FAC	Sapling – Woody plants, excluding woody vines,
3. Setaria pumila		10	N	FAC	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Asclepias syriaca		10	N	FACU	
5 6					Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7					Herb – All herbaceous (non-woody) plants, including
8	_				herbaceous vines, regardless of size, and woody
9					plants, except woody vines, less than approximately 3 ft (1 m) in height.
10					
11					Woody vine – All woody vines, regardless of height.
		110 :	= Total Cove	er	
50%	of total cover: 55	20% of	total cover:	22	
Woody Vine Stratum (Plot size:	30' )		·-		
1	,				
2					
3					
4					
5.					
		0 :	= Total Cove		Hydrophytic Vegetation
			0011		
E00/	of total cover: 0	200/ of	total cover:	0	Present? Yes NoX

Sampling Point: U-BAO-012221-02

nches)	Matrix	<u></u> %		x Features	Tuno <sup>1</sup>	Loc²	Tavtura		Domorko	
	Color (moist)		Color (moist) 10YR 5/6	30	Type <sup>1</sup> C	Loc M	<u>Texture</u>		Remarks	
<u> </u>	10YR 4/3		1018 5/6			IVI	Silty clay loam			
_										
_										
_										
								-		
	ncentration, D=Depl	etion, RM=R	educed Matrix, MS	S=Masked	Sand Grai	ns.	<sup>2</sup> Location: Pl			
dric Soil Ir										lydric Soils <sup>3</sup> :
Histosol (	•		Dark Surface		· (OO) (BAI	DA 447		cm Muck (A		
	pedon (A2)		Polyvalue Be				148) <u> </u>	oast Prairie I	•	)
Black His	Sulfide (A4)		☐ Thin Dark Su☐ Loamy Gleye			7, 140)	Пр	(MLRA 147 edmont Floo		(F10)
	Layers (A5)		Depleted Mat	•	۷)		<u>—</u> · ·	(MLRA 136		s (1 1 <i>3)</i>
	ck (A10) <b>(LRR N)</b>		Redox Dark S		i)			ery Shallow		e (TF12)
	Below Dark Surface	(A11)	Depleted Dar	•	•			ther (Explain		
Thick Dar	k Surface (A12)		Redox Depre	ssions (F8	)					
-	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangane		s (F12) <b>(L</b>	RR N,				
_	147, 148)		MLRA 136	•			2			
	eyed Matrix (S4)		Umbric Surfa							getation and
Sandy Re			Piedmont Flo					tland hydrolo		
	Matrix (S6) ayer (if observed):		Red Parent M	/laterial (F2	1) (MLRA	127, 147	) uni	ess disturbe	d or problen	natic.
	ayer (ii observeu).	No								
								D	W	N. V
• -	\		_				Hydric Soil	Present?	Yes	No <u>X</u>
Depth (incl	nes):									
Depth (inch		, doos not all	lavy diamina naat 1	ייכ						
Depth (inch	nes):nes):	does not al	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not all	low digging past 12	2"						
		does not all	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not all	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		r does not al	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		does not all	low digging past 12	2"						
Depth (inchemarks:		does not all	low digging past 12	2"						
Depth (inchemarks:		does not all	low digging past 12	2"						
Depth (inch		does not all	low digging past 12	2"						
Depth (inch		does not al	low digging past 12	2"						
Depth (inch		r does not al	low digging past 12	2"						
Depth (inch		does not all	low digging past 12	2"						



Site: A	EP Arboles	Station and T-Lines, W-BAO-012021-01	Rater(s): B Otto;	J Wessel	Date: 01/20/2021
	l				
1.0	1.0	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1 ✓ 0.1 to <0.3 acres (0.04 to < <0.1 acres (0.04ha) (0 pts)	) 20.2ha) (5 pts) ha) (4 pts) ı) (3 pts) .2ha) (2pts)		
4.0	5.0	Metric 2. Upland bu	iffers and surroun	ding land use.	
max 14 pts.	subtotal	2a. Calculate average buffer width.  WIDE. Buffers average 50  MEDIUM. Buffers average  NARROW. Buffers average VERY NARROW. Buffers  2b. Intensity of surrounding land use  VERY LOW. 2nd growth of the company of the	Select only one and assign score im (164ft) or more around wetland 25m to <50m (82 to <164ft) arouse 10m to <25m (32ft to <82ft) ar average <10m (<32ft) around we	Do not double check. d perimeter (7) und wetland perimeter (4) ound wetland perimeter (1) tland perimeter (0) d average. wildlife area, etc. (7) th forest. (5) onservation tillage, new falle	
7.0	12.0	Metric 3. Hydrology	<b>/.</b>		
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select o >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in)    V - (0.4m (<15.7in) (1)   3e. Modifications to natural hydrolog   None or none apparent (12) Recovered (7)   Recent or no recovery (1)	ce water (3) ke or stream) (5) nly one and assign score.  (2) ic regime. Score one or double of	Part of wetland/u Part of riparian of Duration inundation/sat Semi- to perman Regularly inunda Seasonally inund Seasonally satura check and average.	nin (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) lated (2) ated in upper 30cm (12in) (1)
7.0	19.0	Metric 4. Habitat Al	teration and Deve	lopment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score or None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	ne or double check and average.  y one and assign score.		
SI	19.0		selective cutting woody debris removal toxic pollutants	dredging farming nutrient enrichme	ent

Site:AE	P Arboles	Station and T-Lines, W-BAO-012021-01	er(s): B Ott	o; J Wessel	Date: 01/20/2021
	19.0				
su	ıbtotal first pa	age			
0.0	19.0	ľ Metric 5. Special Wetla	ands.		
max 10 pts.	subtotal	Check all that apply and score as indicated.			
		Bog (10)			
		Fen (10)			
		Old growth forest (10)  Mature forested wetland (5)			
		Lake Erie coastal/tributary wetlan	d-unrestricted hyd	rology (10)	
		Lake Erie coastal/tributary wetlan		ogy (5)	
		Lake Plain Sand Prairies (Oak Op	penings) (10)		
		Relict Wet Prairies (10)  Known occurrence state/federal t	hreatened or enda	ngered species (10)	
		Significant migratory songbird/wa		• , , ,	
		Category 1 Wetland. See Questi			
2	16				_
-3	16	Metric 6. Plant commu	nities, int	erspersion, micro	topography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0	
		Aquatic bed  1 Emergent	I	Present and either comprises s vegetation and is of moderate	-
		Shrub		significant part but is of low q	•
		Forest	2	Present and either comprises s	
		Mudflats		1 -	e quality or comprises a small
		Open water	3	part and is of high quality  Present and comprises signific	ant nort or more of wetlands
		Other  6b. horizontal (plan view) Interspersion.	3	vegetation and is of high qua	
		Select only one.			,
		High (5)		escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predo	
		Moderate (3)  Moderately low (2)	mod	disturbance tolerant native sp Native spp are dominant comp	
		Low (1)		although nonnative and/or dis	_
		✓ None (0)		can also be present, and spe	•
		6c. Coverage of invasive plants. Refer		moderately high, but general	
		to Table 1 ORAM long form for list. Add or deduct points for coverage	high	threatened or endangered sp A predominance of native spec	
		Extensive >75% cover (-5)	ingii	and/or disturbance tolerant n	
		Moderate 25-75% cover (-3)		absent, and high spp diversit	
		Sparse 5-25% cover (-1)		the presence of rare, threater	ned, or endangered spp
		Nearly absent <5% cover (0) Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47	acres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.	88 acres)
		Coarse woody debris >15cm (6in Standing dead >25cm (10in) dbh		High 4ha (9.88 acres) or more	
		1 Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or	if more common
				of marginal quality	hut not of hishaut
			2	Present in moderate amounts, quality or in small amounts or	
			3	Present in moderate or greater	<u> </u>
4.0				and of highest quality	
16	GRAN	ID TOTAL (max 100 pts)			_

Site: A	EP Arboles	Station and T-L	ines, W-BAO-012021-02	Rater(s): B Ott	o; J\	Vessel	Date: 01/2	0/2021
0.0	0.0	Metric <sup>1</sup>	1. Wetland A	rea (size).				
max 6 pts.	subtotal	>50 25 10 3 to 0.3 0.1	ze class and assign sco 0 acres (>20.2ha) (6 pts to <50 acres (10.1 to <2 to <25 acres (4 to <10.1 0 <10 acres (1.2 to <4ha to <3 acres (0.12 to <1 to <0.3 acres (0.04 to < 1 acres (0.04ha) (0 pts)	) (0.2ha) (5 pts) ha) (4 pts) () (3 pts) (2ha) (2pts) (0.12ha) (1 pt)				
7.0	7.0	  Metric 2	2. Upland bu	iffers and sur	roundina	land use.		
max 14 pts.	subtotal	2a. Calculate WII WII NA NA VE 2b. Intensity VE V LO' MC	e average buffer width. DE. Buffers average 50 DIUM. Buffers average RROW. Buffers average RY NARROW. Buffers of surrounding land use RY LOW. 2nd growth o W. Old field (>10 years DERATELY HIGH. Re	Select only one and assigm (164ft) or more around 25m to <50m (82 to <16 e 10m to <25m (32ft to average <10m (<32ft) are. Select one or double or older forest, prairie, say), shrubland, young secosidential, fenced pasture, pen pasture, row croppin	gn score. Do not of wetland perimete 4ft) around wetland sezft) around wetlound wetland perimete and average annah, wildlife are nd growth forest. (park, conservation	double check. er (7) nd perimeter (4) and perimeter (1) meter (0) e. ea, etc. (7) (5) on tillage, new fallo		
6.0	13.0	  Metric :	3. Hydrology	<b>1</b> _				
max 30 pts.	subtotal	3a. Sources Hig Oth Oth Pre Sea Per 3c. Maximum >0.4 ✓ <0. 3e. Modificat  Nor Rec ✓ Rec	of Water. Score all that h pH groundwater (5) her groundwater (3) cipitation (1) asonal/Intermittent surfatennial surface water (lain water depth. Select of 7 (27.6in) (3) to 0.7m (15.7 to 27.6in) (4m (<15.7in) (1)	ce water (3) ke or stream) (5) nly one and assign score (2)	3d. Durati	Part of wetland/up Part of riparian or on inundation/sate Semi- to permana Regularly inundat Seasonally inund Seasonally satura	nin (1) lake and other hum pland (e.g. forest), r upland corridor (1 uration. Score one ently inundated/sat ted/saturated (3) ated (2) ated in upper 30cm	complex (1) ) or dbl check urated (4)
6.0	19.0	Metric -	4. Habitat Al	teration and l	Developm	ent.		
max 20 pts.	subtotal	4a. Substrate Noi Rec Rec Rec Rec Rec Ver Goo Mo Fai Poc Habitat a	e disturbance. Score or ne or none apparent (4) covered (3) covering (2) cent or no recovery (1) evelopment. Select onle cellent (7) y good (6) od (5) derately good (4) r (3) or to fair (2) or (1) lteration. Score one or	y one and assign score.  double check and average  Check all disturbance	verage.			
sı	19.0	<b>✓</b> Red	covered (6) covering (3) cent or no recovery (1)	✓ mowing     grazing     ✓ clearcutting     selective cutting     woody debris re     toxic pollutants	moval	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	itic bed removal	

Site:AE	P Arboles	Station and T-Lines, W-BAO-012021-02	r(s): B Otto	o; J Wessel	Date: 01/20/2021
	19.0				
Su	ubtotal first pa	age			
0.0	19.0	   Metric 5.  Special Wetla	nds.		
max 10 pts.	subtotal	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	Lunrestricted hydi	rology (10)	
		Lake Erie coastal/tributary wetland	•		
		Lake Plain Sand Prairies (Oak Op			
		Relict Wet Prairies (10)			
		Known occurrence state/federal th		. , ,	
		Significant migratory songbird/wat  Category 1 Wetland. See Question			
		dategory i Welland. Goo queelle	n r gaantativo re	aung (10)	
2	21	Metric 6. Plant commu	nities inte	erspersion, microt	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	- p - g · - p · · j ·
111dx 20 pts.	Subtotal	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	2471 acres) contiguous area
		Aquatic bed	1	Present and either comprises sr	
		1 Emergent		vegetation and is of moderate	
		Shrub	2	significant part but is of low qu	
		Forest Mudflats	Z	Present and either comprises significant vegetation and is of moderate	
		Open water		part and is of high quality	quality of comprisce a circum
		Other	3	Present and comprises significa	nt part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quali	ty
		Select only one. High (5)	Narrativo Do	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predom	ninance of nonnative or
		Moderate (3)		disturbance tolerant native spe	
		Moderately low (2)	mod	Native spp are dominant compo	
		Low (1)		although nonnative and/or dist	· · ·
		None (0)  6c. Coverage of invasive plants. Refer		can also be present, and spec moderately high, but generally	•
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native specie	es, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant na	
		Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity the presence of rare, threaten	
		Nearly absent <5% cover (0)		the presence of fare, threaten	eu, or endangered spp
		Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	<del></del>
		Vegetated hummucks/tussucks Coarse woody debris >15cm (6in)	3	Moderate 1 to <4ha (2.47 to 9.8 High 4ha (9.88 acres) or more	88 acres)
		Standing dead >25cm (10in) dbh		Triigh 4ha (9.00 acres) or more	
		Amphibian breeding pools	Microtopogr	raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or in	f more common
			2	of marginal quality  Present in moderate amounts, b	ut not of highest
			2	quality or in small amounts of	
			3	Present in moderate or greater a	
$^{\circ}$				and of highest quality	
21	GRAN	ID TOTAL (max 100 pts)			

Site: Al	EP Arboles	Station and T-Line	es, W-BAO-012121-05	Rater(s): B Otto;	J Wessel	Date: 01/21/2021
1 0	1 0					
1.0	1.0	Metric 1.	Wetland A	rea (size).		
max 6 pts.	subtotal	>50 a 25 to 10 to 3 to < 0.3 to ✓ 0.1 to	class and assign scor cres (>20.2ha) (6 pts) <50 acres (10.1 to <20 <25 acres (4 to <10.10 10 acres (1.2 to <4ha <3 acres (0.12 to <1.0 <0.3 acres (0.04 to <0 cres (0.04ha) (0 pts)	0.2ha) (5 pts) na) (4 pts) ) (3 pts) 2ha) (2pts)		
7.0	8.0	Metric 2.	Upland bu	ffers and surro	unding land use.	
max 14 pts.	subtotal	WIDE WEDI NARF VERY 2b. Intensity of VERY LOW. MODE	. Buffers average 50: JM. Buffers average COW. Buffers average NARROW. Buffers a surrounding land use. LOW. 2nd growth or Old field (>10 years) ERATELY HIGH. Res	average <10m (<32ft) around Select one or double check older forest, prairie, savanna , shrubland, young second gi	land perimeter (7) around wetland perimeter (4) ) around wetland perimeter (1) wetland perimeter (0) and average. ah, wildlife area, etc. (7) rowth forest. (5) c, conservation tillage, new fall	
10.0	18.0	Metric 3.	Hydrology			
max 30 pts.	subtotal	High protection of the preciping of the preciping season perent season p	27.6in) (3) 0.7m (15.7 to 27.6in) ı (<15.7in) (1)	ce water (3) se or stream) (5) ly one and assign score. (2) c regime. Score one or doub	Part of wetland/u Part of riparian o  3d. Duration inundation/sat Semi- to perman Regularly inunda Seasonally inund V Seasonally saturate served point source (nor filling/grading road bed/RR trace dredging	ain (1) //ake and other human use (1) //ake and other human use (1) //pland (e.g. forest), complex (1) r upland corridor (1) //curation. Score one or dbl check ently inundated/saturated (4) //ted/saturated (3) //dated (2) //ated in upper 30cm (12in) (1)  //pstormwater)
8.0	26.0	Metric 4	Habitat Al	teration and De		
max 20 pts.	subtotal	4a. Substrate d None Recov Recov Recer  4b. Habitat dev Very 9 Good Mode Fair ( Poor 1 Poor 0 4c. Habitat alte	isturbance. Score on or none apparent (4) vered (3) vering (2) at or no recovery (1) elopment. Select only ent (7) good (6) (5) rately good (4) 3) o fair (2) 1)	double check and average.  Check all disturbances ob grazing	ge.	
SI	26.0	Recer	nt or no recovery (1)	clearcutting selective cutting woody debris remova toxic pollutants	sedimentation dredging	

Site: AEP Arbole	es Station and T-Lines, W-BAO-012121-05	(s): B Ott	o; J Wessel	Date: 01/21/2021
26.0				
subtotal first	page			
0.0 26.0	Metric 5. Special Wetlan	ıds.		
max 10 pts. subtota	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-u	unrestricted hyd	drology (10)	
	Lake Erie coastal/tributary wetland-r		logy (5)	
	Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10)	nings) (10)		
	Known occurrence state/federal thre	eatened or enda	angered species (10)	
	Significant migratory songbird/water		. , ,	
	Category 1 Wetland. See Question	1 Qualitative R	lating (-10)	
3 29	Matria C. Plant and a			<b></b>
5 23	Metric 6. Plant commun		=	opograpny.
max 20 pts. subtota	•		Community Cover Scale	1474 \ti
	Score all present using 0 to 3 scale.  Aquatic bed	<u>0</u>	Absent or comprises <0.1ha (0.2 Present and either comprises sn	, <u> </u>
	1 Emergent		vegetation and is of moderate	•
	Shrub		significant part but is of low qu	
	Forest	2	Present and either comprises sig	
	Mudflats Open water		vegetation and is of moderate part and is of high quality	quality or comprises a small
	Other	3	Present and comprises significant	nt part, or more, of wetland's
	6b. horizontal (plan view) Interspersion.		vegetation and is of high qualit	у
	Select only one.	Nametice D	and which of Variation Ovality	
	High (5) Moderately high(4)	low	escription of Vegetation Quality Low spp diversity and/or predom	inance of nonnative or
	Moderate (3)		disturbance tolerant native spe	
	Moderately low (2)	mod	Native spp are dominant compo	
	Low (1)  None (0)		although nonnative and/or distriction also be present, and speci	
	6c. Coverage of invasive plants. Refer		moderately high, but generally	•
	to Table 1 ORAM long form for list. Add		threatened or endangered spp	
	or deduct points for coverage	high	A predominance of native specie	
	Extensive >75% cover (-5) Moderate 25-75% cover (-3)		and/or disturbance tolerant nat absent, and high spp diversity	
	Sparse 5-25% cover (-1)		the presence of rare, threatene	
	Nearly absent <5% cover (0)			
	Absent (1)		Open Water Class Quality	
	6d. Microtopography. Score all present using 0 to 3 scale.	0 1	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 a	cres)
	1 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	
	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
	Standing dead >25cm (10in) dbh			
	Amphibian breeding pools	Microtopog 0	raphy Cover Scale Absent	
		1	Present very small amounts or if	more common
		-	of marginal quality	
		2	Present in moderate amounts, b	<del>-</del>
		3	quality or in small amounts of I  Present in moderate or greater a	
			and of highest quality	
29   GRA	ND TOTAL (max 100 pts)			

Site: AE	EP Arboles	Station and T-Lines, W-BAO-012121-02	Rater(s): B Otto;	J Wessel	Date: 01/21/2021
1.0	1.0	Motric 1 Wotland A	roa (sizo)		
max 6 pts.	subtotal	Metric 1. Wetland A  Select one size class and assign score  >50 acres (>20.2ha) (6 pts)  25 to <50 acres (10.1 to <20  10 to <25 acres (4 to <10.1h  3 to <10 acres (1.2 to <4ha)  0.3 to <3 acres (0.12 to <1.2  0.1 to <0.3 acres (0.04 to <0  <0.1 acres (0.04ha) (0 pts)	e. 0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
2	3.0	Metric 2. Upland but	ffers and surround	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average and NARROW. Buffers average and VERY NARROW. Buffers average and VERY NARROW. Buffers and VERY LOW. 2nd growth or LOW. Old field (>10 years), MODERATELY HIGH. Res	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) aroun verage <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) ad wetland perimeter (1) ad perimeter (0) verage. Ilife area, etc. (7) perst. (5) ervation tillage, new fallo	
6.0	9.0	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5)  Other groundwater (3)  ✓ Precipitation (1)  Seasonal/Intermittent surface Perennial surface water (lak)  3c. Maximum water depth. Select on  >0.7 (27.6in) (3)  0.4 to 0.7m (15.7 to 27.6in)  ✓ <0.4m (<15.7in) (1)  3e. Modifications to natural hydrologic  None or none apparent (12)  Recovered (7)  ✓ Recovering (3)  Recent or no recovery (1)	se water (3) e or stream) (5) ly one and assign score.  (2) c regime. Score one or double check	Part of wetland/upart of riparian or Duration inundation/sate Semi- to permane Regularly inundation/seasonally inundation/seasonally saturack and average.	in (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1)
8.0	17.0	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or d Recovered (6)	one and assign score.	✓ shrub/sapling ren	noval
Su	17.0	Recovering (3) Recent or no recovery (1)	grazing clearcutting selective cutting woody debris removal toxic pollutants	herbaceous/aqual sedimentation dredging farming nutrient enrichme	itic bed removal

Site: AEP Arbole	es Station and T-Lines, W-BAO-012121-02	Rater(s): B Ott	o; J Wessel	Date: 01/21/2021	
17.0	_				
0.0 17.0	Metric 5. Special W	etlands.			
max 10 pts. subtotal	<b></b>	icated. ) wetland-unrestricted hyd wetland-restricted hydrol Dak Openings) (10) deral threatened or enda ird/water fowl habitat or	ogy (5) ingered species (10) usage (10)		
4 21	Metric 6. Plant com	munities, int	erspersion, microt	topography.	
max 20 pts. subtotal	•	s. <u>Vegetation</u> (	Community Cover Scale		
	Score all present using 0 to 3 scale.  Aquatic bed 1 Emergent	<u>0</u> 1	Absent or comprises <0.1ha (0.  Present and either comprises some vegetation and is of moderate	mall part of wetland's	
	Shrub Forest Mudflats	2	significant part but is of low queries and either comprises si vegetation and is of moderate	ignificant part of wetland's	
	Open water		part and is of high quality		
	Other6b. horizontal (plan view) Interspersion	3 on	Present and comprises signification vegetation and is of high quality		
	Select only one.				
	High (5)		escription of Vegetation Quality		
	Moderately high(4)  Moderate (3)	low	Low spp diversity and/or predon disturbance tolerant native sp	ecies	
	Moderately low (2)  ✓ Low (1)  None (0)	mod	Native spp are dominant compo- although nonnative and/or dis can also be present, and spec	turbance tolerant native spp	
	6c. Coverage of invasive plants. Ref		moderately high, but generally		
	to Table 1 ORAM long form for list. A		threatened or endangered spr		
	or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-3	high s)	A predominance of native speci and/or disturbance tolerant na absent, and high spp diversity	ative spp absent or virtually and often, but not always,	
	Sparse 5-25% cover (-1) Nearly absent <5% cover (0  Absent (1)	•	the presence of rare, threaten  Open Water Class Quality	ed, or endangered spp	
	6d Microtopography	0	Absent <0.1ha (0.247 acres)		
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a		
	Vegetated hummucks/tussi		Moderate 1 to <4ha (2.47 to 9.8	38 acres)_	
	Coarse woody debris >15cl		High 4ha (9.88 acres) or more		
	Standing dead >25cm (10ir				
	1 Amphibian breeding pools		aphy Cover Scale		
		0	Absent	f mara comment	
		1	Present very small amounts or i of marginal quality		
		2	Present in moderate amounts, to quality or in small amounts of		
		3	Present in moderate or greater and of highest quality	amounts	
121 IGBA	ND TOTAL (may 100 ptc)				

Site: Al	EP Arboles	Station and T-Lines, W-BAO-012121-01	Rater(s): B Otto;	J Wessel	Date: 01/21/2021
1.0	1.0	Metric 1. Wetland Ar	rea (size)		
max 6 pts.	subtotal	Select one size class and assign score	2. .2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
2	3.0	Metric 2. Upland buf	fers and surround	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average 2 NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or LOW. Old field (>10 years), MODERATELY HIGH. Resident	(164ft) or more around wetland p 5m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) arour verage <10m (<32ft) around wetlar	erimeter (7) wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) average. dlife area, etc. (7) orest. (5) ervation tillage, new falle	ow field. (3)
8.0	11.0	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a  High pH groundwater (5)  Other groundwater (3)  ✓ Precipitation (1)  Seasonal/Intermittent surface  Perennial surface water (lake  3c. Maximum water depth. Select only  >0.7 (27.6in) (3)  0.4 to 0.7m (15.7 to 27.6in) (  ✓ <0.4m (<15.7in) (1)  3e. Modifications to natural hydrologic  None or none apparent (12)  Recovered (7)  ✓ Recovering (3)  Recent or no recovery (1)	e water (3) e or stream) (5) 3d. y one and assign score. 2)	Part of wetland/u Part of riparian or Part of riparian or Duration inundation/sat Semi- to permand Regularly inundation Seasonally inund Seasonally saturation	in (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1)
6.0	17.0	Metric 4. Habitat Alt		pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or do None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	one and assign score.	shrub/sapling ren herbaceous/aqua sedimentation dredging farming	
SL	ubtotal this pa	ge	toxic pollutants	nutrient enrichme	ent

Site:AE	P Arboles	Station and T-Lines, W-BAO-012121-01 Rater	(s): B Ott	o; J Wessel	Date: 01/21/2021
	17.0				
su	btotal first pa	age			
[0.0]	17.0	Metric 5. Special Wetlan	ıds.		
max 10 pts.	subtotal	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-u Lake Erie coastal/tributary wetland-r	•	. ,	
		Lake Plain Sand Prairies (Oak Open			
		Relict Wet Prairies (10) Known occurrence state/federal thre	atened or enda	ingered species (10)	
		Significant migratory songbird/water	fowl habitat or	usage (10)	
		Category 1 Wetland. See Question	1 Qualitative R	ating (-10)	
-2	15	Metric 6. Plant commun	ities. inte	erspersion, microte	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	-	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	
		Aquatic bed 1 Emergent	1	Present and either comprises sm vegetation and is of moderate of	-
		Shrub		significant part but is of low qua	ality
		Forest	2	Present and either comprises sig	
		Mudflats Open water		vegetation and is of moderate of part and is of high quality	quality or comprises a small
		Other	3	Present and comprises significar	t part, or more, of wetland's
		6b. horizontal (plan view) Interspersion. Select only one.		vegetation and is of high quality	/
		High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomi	
		Moderate (3)  Moderately low (2)	mod	disturbance tolerant native speral Native spp are dominant components	
		✓ Low (1)	mod	although nonnative and/or distu	
		None (0)		can also be present, and specie	
		6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but generally threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native specie	s, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant nati	
		Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity a the presence of rare, threatene	
		Nearly absent <5% cover (0)		· · ·	, ,
		Absent (1) 6d. Microtopography.	Mudflat and 0	Open Water Class Quality Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 doles)	cres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	3 acres)
		Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more	
		1 Amphibian breeding pools	Microtopog	raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if of marginal quality	more common
			2	Present in moderate amounts, but	ut not of highest
				quality or in small amounts of h	ighest quality
	İ		3	Present in moderate or greater a and of highest quality	mounts
15	GRAN	ID TOTAL (max 100 pts)			

Site: Al	EP Arboles	Station and T-Lines, W-BAO-012121-0	Pater(s): B Otto;	J Wessel	Date: 01/21/2021
2.0	2.0	Metric 1. Wetland	Area (size)		
max 6 pts.	subtotal	Select one size class and assign s  >50 acres (>20.2ha) (6 p  25 to <50 acres (10.1 to  10 to <25 acres (4 to <10  3 to <10 acres (1.2 to <4  0.3 to <3 acres (0.12 to <  0.1 to <0.3 acres (0.04 to  <0.1 acres (0.04ha) (0 p)	core. ts) <20.2ha) (5 pts) 0.1ha) (4 pts) ha) (3 pts) <1.2ha) (2pts) o <0.12ha) (1 pt)		
2.0	4.0	Metric 2. Upland b	ouffers and surrou	nding land use.	
max 14 pts.	subtotal	MEDIUM. Buffers avera NARROW. Buffers avera VERY NARROW. Buffe 2b. Intensity of surrounding land u VERY LOW. 2nd growth LOW. Old field (>10 yea MODERATELY HIGH. F	50m (164ft) or more around wetlar ge 25m to <50m (82 to <164ft) arc age 10m to <25m (32ft to <82ft) a rs average <10m (<32ft) around w	nd perimeter (7) bund wetland perimeter (4) bround wetland perimeter (1) etland perimeter (0) nd average. wildlife area, etc. (7) byth forest. (5) conservation tillage, new fallo	
15.0	19.0	Metric 3. Hydrolog	Jy.		
max 30 pts.	subtotal	3a. Sources of Water. Score all the High pH groundwater (5) Other groundwater (3) ✓ Precipitation (1) ✓ Seasonal/Intermittent superennial surface water 3c. Maximum water depth. Select >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6 ✓ <0.4m (<15.7in) (1) 3e. Modifications to natural hydrol None or none apparent (✓ Recovered (7) ✓ Recovering (3) Recent or no recovery (10)	rface water (3) (lake or stream) (5) only one and assign score. in) (2) ogic regime. Score one or double 12) Check all disturbances obse ditch tile	Part of wetland/u Part of riparian or 3d. Duration inundation/sat Semi- to permand Regularly inundation/seasonally inundation/seasonally saturation	nin (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1)
9.0	28.0	   Metric 4. Habitat <i>A</i>	Alteration and Deve	elopment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score  None or none apparent ( Recovered (3) Recovering (2) Recent or no recovery (1  4b. Habitat development. Select (1) Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one (1) None or none apparent (1)	one or double check and average.  ) only one and assign score.  or double check and average.		
SL	28.0	Recovered (6)  Recovering (3)  Recent or no recovery (1	mowing grazing	✓ shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal

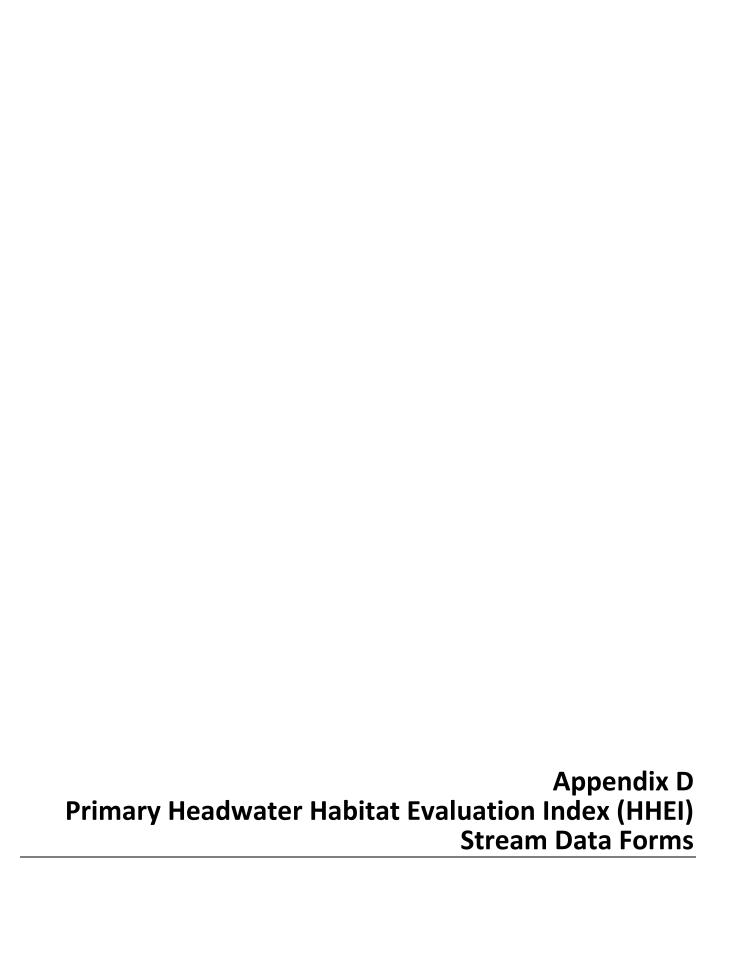
Site:AEP Ar	poles Station and T-Lines, W-BAO-012121-04 Rater	(s): B Otto	o; J Wessel	Date: 01/21/2021
28	3.0			
subtotal	first page			
	Metric 5. Special Wetlar	nds.		
max 10 pts. sub	total Check all that apply and score as indicated.			
	Bog (10)			
	Fen (10)			
	Old growth forest (10)  Mature forested wetland (5)			
	Lake Erie coastal/tributary wetland-	unrestricted hvd	roloav (10)	
	Lake Erie coastal/tributary wetland-	•		
	Lake Plain Sand Prairies (Oak Ope	nings) (10)		
	Relict Wet Prairies (10)		nagrad analisa (10)	
	Known occurrence state/federal thr Significant migratory songbird/wate		- , , ,	
	Category 1 Wetland. See Question		- , ,	
4	<u> </u>		- · · /	
4  3	✓ Metric 6. Plant commun	ities, inte	erspersion, microt	opography.
max 20 pts. sub	total 6a. Wetland Vegetation Communities.		Community Cover Scale	
	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	<u> </u>
	Aquatic bed	1	Present and either comprises sm	•
	1 Emergent Shrub		vegetation and is of moderate significant part but is of low qua	· · ·
	Forest	2	Present and either comprises sig	
	Mudflats		vegetation and is of moderate	
	1 Open water		part and is of high quality	
	Other 6b. horizontal (plan view) Interspersion.	3	Present and comprises significan	
	Select only one.		vegetation and is of high qualit	у
	High (5)	Narrative De	escription of Vegetation Quality	
	Moderately high(4)	low	Low spp diversity and/or predom	
	Moderate (3)	mod	disturbance tolerant native spe	
	Moderately low (2)  ✓ Low (1)	mod	Native spp are dominant compor although nonnative and/or distu	•
	None (0)		can also be present, and speci	
	6c. Coverage of invasive plants. Refer		moderately high, but generally	
	to Table 1 ORAM long form for list. Add		threatened or endangered spp	
	or deduct points for coverage  Extensive >75% cover (-5)	high	A predominance of native specie and/or disturbance tolerant nat	• • • • • • • • • • • • • • • • • • • •
	Moderate 25-75% cover (-3)		absent, and high spp diversity	
	✓ Sparse 5-25% cover (-1)		the presence of rare, threatene	
	Nearly absent <5% cover (0)			
	Absent (1) 6d. Microtopography.	Mudflat and 0	Open Water Class Quality Absent <0.1ha (0.247 acres)	
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	
	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
	Standing dead >25cm (10in) dbh	NA: 4		
	Amphibian breeding pools	<u>wiicrotopogr</u> 0	Absent	
		1	Present very small amounts or if	more common
		-	of marginal quality	
		2	Present in moderate amounts, but	
		3	quality or in small amounts of here are represented in moderate or greater a	<del></del>
		3	and of highest quality	mounts
32   GF	RAND TOTAL (max 100 pts)		· •	

Site: Al	EP Arboles	Statio	on and T-Line	s, W-BAO-012221-01	Rater(s): B	Otto;	J Wessel	Date: 01/2	2/2021
		1							
1.0	1.0	Μe	etric 1.	Wetland A	rea (size).				
max 6 pts.	subtotal	Sele	>50 a 25 to 10 to 3 to < 0.3 to ✓ 0.1 to	class and assign sco cres (>20.2ha) (6 pts <50 acres (10.1 to <2 <25 acres (4 to <10.1 10 acres (1.2 to <4ha <3 acres (0.12 to <1 <0.3 acres (0.04 to < cres (0.04ha) (0 pts)	) 20.2ha) (5 pts) ha) (4 pts) a) (3 pts) .2ha) (2pts)				
7.0	8.0	Me	etric 2.	Upland bu	iffers and s	surroundi	ing land use.		
max 14 pts.	subtotal		WIDE  WEDI  NARF  VERY  Intensity of  VERY  LOW.  MODE	OW. Buffers average NARROW. Buffers surrounding land use LOW. 2nd growth of Old field (>10 years	Im (164ft) or more a 25m to <50m (82 to 125m to <25m (32 125m (32	round wetland pe o <164ft) around Eft to <82ft) around Eft) around wetlan uble check and a e, savannah, wild second growth fo sture, park, cons	erimeter (7) wetland perimeter (4) Id wetland perimeter (1) Id perimeter (0) verage. Ilife area, etc. (7) prest. (5) ervation tillage, new fallo		
8.0	16.0	Μe	etric 3.	Hydrology	<b>/</b> .				
max 30 pts.	subtotal	3a. 3c.	Sources of High p Other Precip Seaso Peren Maximum w >0.7 ( 0.4 to ✓ <0.4m Modification None Recov ✓ Recov	Water. Score all that of groundwater (5) groundwater (3) groundwater (3) groundwater (1) groundwater (1) groundwater (12) groundwater depth. Select on (27.6in) (3) groundwater depth. Select on (415.7in) (1) groundwater depth. (12) groundwater (12) groundwater (12) groundwater (13) groundwater (14) groundwater (15) groundwater (	ce water (3) ke or stream) (5) nly one and assign (2)	3d. score. ne or double chec pances observed	Part of wetland/u Part of riparian or Duration inundation/sate Semi- to permand Regularly inundation Seasonally inundation	nin (1) lake and other humpland (e.g. forest), r upland corridor (1 uration. Score one ently inundated/satited/saturated (3) lated (2) ated in upper 30cm	complex (1) ) or dbl check urated (4)
7.0	23.0	] <sub>м</sub> ,	etric 4.	Habitat Al	teration ar	nd Develo	pment.		
max 20 pts.	subtotal	4a.	Substrate d None Recov Recer Recer Habitat dev Excell Very G Good Model Fair (3 Poor t Poor ( Habitat alter	isturbance. Score or or none apparent (4) rered (3) rering (2) it or no recovery (1) elopment. Select onlent (7) good (6) (5) rately good (4) is o fair (2)	y one and assign so	and average. core.		noval	
si	23.0	age	✓ Recov	ering (3) tt or no recovery (1)	grazing clearcutting selective c	utting ris removal	herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal	

Site:AE	P Arboles	Station and T-Lines, W-BAO-012221-01	Rater(s): B Ott	O; J Wessel	Date: 01/22/2021
su	23.0	ge			
0.0	23.0	Metric 5. Special V	Vetlands.		
max 10 pts.	subtotal	Check all that apply and score as inc Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (i) Lake Erie coastal/tributary Lake Plain Sand Prairies (inc) Relict Wet Prairies (10) Known occurrence state/forested (inc) Significant migratory song Category 1 Wetland. See	dicated.  y wetland-unrestricted hyd y wetland-restricted hydrol (Oak Openings) (10)  ederal threatened or enda bird/water fowl habitat or	angered species (10) usage (10)	
-1	22	Metric 6. Plant con	nmunities into	erspersion microt	onography
max 20 pts.	subtotal	6a. Wetland Vegetation Communiti		Community Cover Scale	opograpny.
max 20 pts.	Subtotal	Score all present using 0 to 3 scale.	os. <u>vegetation v</u>	Absent or comprises <0.1ha (0.2	2471 acres) contiguous area
		Aquatic bed 1 Emergent Shrub	1	Present and either comprises sn vegetation and is of moderate significant part but is of low qu	nall part of wetland's quality, or comprises a
		Forest Mudflats	2	Present and either comprises significant vegetation and is of moderate	gnificant part of wetland's
		Open water Other 6b. horizontal (plan view) Interspers	sion.	part and is of high quality  Present and comprises significal vegetation and is of high quality	
		Select only one.	Namativa Da	and the second s	
		High (5)  Moderately high(4)  Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
		Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Re		Native spp are dominant comport although nonnative and/or distriction also be present, and speci- moderately high, but generally	urbance tolerant native spp ies diversity moderate to w/o presence of rare
		to Table 1 ORAM long form for list. or deduct points for coverage  Extensive >75% cover (-5  Moderate 25-75% cover (-5)	high )	threatened or endangered spp A predominance of native specie and/or disturbance tolerant nat absent, and high spp diversity	es, with nonnative spp tive spp absent or virtually and often, but not always,
		Sparse 5-25% cover (-1) Nearly absent <5% cover	(0)	the presence of rare, threatene	a, or endangered spp
		Absent (1)	• •	Open Water Class Quality	
		6d Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 a	
		Vegetated hummucks/tus		Moderate 1 to <4ha (2.47 to 9.8	8 acres)
		Coarse woody debris >15		High 4ha (9.88 acres) or more	
		Standing dead >25cm (10	•		
		1 Amphibian breeding pools		raphy Cover Scale	
			<u> </u>	Absent Present very small amounts or if	more common
				of marginal quality	
			2	Present in moderate amounts, b quality or in small amounts of I	highest quality
	·		3	Present in moderate or greater a and of highest quality	mounts
22	GRAN	ID TOTAL (max 100 pts)	)	- · · · · ·	

Site: Al	EP Arboles	Stati	on and T-Line	s, W-BAO-012221-02	Rater(s): B	Otto;	J Wessel	Date: 01/2	2/2021
4 0	4.0	1							
1.0		4		Wetland A	• •	•			
max 6 pts.	subtotal	Sele	>50 ad 25 to < 10 to < 3 to <1 0.3 to 0.1 to	class and assign sco cres (>20.2ha) (6 pts 50 acres (10.1 to <2 25 acres (4 to <10.1 0 acres (1.2 to <4ha <3 acres (0.12 to <1 <0.3 acres (0.04 to < cres (0.04ha) (0 pts)	) (0.2ha) (5 pts) ha) (4 pts) (3 pts) (2ha) (2pts)				
7.0	8.0	М	etric 2.	Upland bu	iffers and	surround	ing land use.		
max 14 pts.	subtotal	2a.	Calculate av WIDE. WIDE. NARR VERY Intensity of s VERY LOW. MODE	erage buffer width. : Buffers average 50 JM. Buffers average OW. Buffers averag NARROW. Buffers surrounding land use LOW. 2nd growth o Old field (>10 years	Select only one an m (164ft) or more 25m to <50m (82 e 10m to <25m (3 average <10m (<3 . Select one or dor older forest, prain ), shrubland, young sidential, fenced p	ad assign score. It around wetland pot to <164ft) around 32ft to <82ft) arourd wetlar ouble check and a rie, savannah, wild g second growth fasture, park, cons	oo not double check. erimeter (7) wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) everage. flife area, etc. (7) ervation tillage, new falle		
9.0	17.0	М	etric 3.	Hydrology	<b>7.</b>				
max 30 pts.	subtotal	3a. 3c.	Sources of None of None of Recov	Vater. Score all that H groundwater (5) groundwater (3) station (1) nal/Intermittent surfater depth. Select or (7.6in) (3) 0.7m (15.7 to 27.6in) (<15.7in) (1) s to natural hydrologor none apparent (12	ce water (3) ke or stream) (5) nly one and assign (2)	3d. i score.	Part of wetland/u Part of riparian or Part of riparian or Part of riparian or Part of riparian or Part of riparian or Part of riparian or Semi- to permand Regularly inunda Seasonally inunda Seasonally saturate k and average.  point source (nor filling/grading road bed/RR trade	ain (1)  lake and other hum pland (e.g. forest), rupland corridor (1 uration. Score one ently inundated/satited/saturated (3) lated (2) ated in upper 30cm	complex (1) ) e or dbl check curated (4)
		1			weir stormwate	er input	dredging other		
8.0	25.0	М	etric 4.	Habitat Al	teration a	nd Develo	pment.		
max 20 pts.	subtotal	4b.	None of Recov Recov Recen Habitat deve Excelle Very g Good of Moder Fair (3 Poor tr Poor ( Habitat alter	ood (6) (5) ately good (4) ) o fair (2) 1) ation. Score one or	y one and assign ៖	score.			1
Si	25.0	<b>g</b> ge	Recov ✓ Recov	or none apparent (9) ered (6) ering (3) t or no recovery (1)	<ul><li>✓ mowing grazing</li><li>✓ clearcutting</li><li>✓ selective</li></ul>	cutting bris removal	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal	

25.0  25.0  Wetric 5. Special Wetlands.  Check all that apply and score as indicated.  Bog (10)  Final	Site:AEP Ar	boles Station and T-Lines, W-BAO-012221-02 Rater	(s): B Otto	); J Wessel	Date: 01/22/2021
Check all that apply and score as indicated.    Pog (10)   Pog (10					
Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Second State   Seco	0.0 25	Metric 5. Special Wetlar	nds.		
Category 1 Wetland. See Question 1 Qualitative Rating (-10)   Part		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-take Erie coastal/tributary wetland-take Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre	unrestricted hydro restricted hydrolo nings) (10) eatened or endar	ogy (5)	
Metric 6. Plant communities, interspersion, microtopography.  Socre all present using 0 to 3 scale.  Aquatic bed   Aquatic bed   Emergent   Shrub   Forest   Mudflats   Open water   Opher   O					
Score all present using 0 to 3 scale.  Aquatic bed I Emergent Shrub Forest Other Other Other High (5) Moderately high(4) Moderately low (2) Low (1) Z None (0) Low (1) Z Sparse 5-25% cover (-1) Mearly absent <-5% cover (-1) Mearly absent <-5% cover (-1) Absent (1) Absent or comprises <0.1ha (0.247 facres) contiguous area  O Absent or comprises scall part of wetland's vegetation and is of moderate quality or comprises a significant part but is of low quality  Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of high quality  Present and cemprises significant part, or more, of wetland's vegetation and is of high quality  Negetation and is of moderate quality or more, of wetland's vegetation and is of high quality  Negetation and is of moderate quality or more, of wetland's vegetation and is of high quality  Negetation and is of moderate quality or more, of wetland's vegetation and is of high quality  Negetation and is of high quality or more, of wetland's vegetation and is of high quality or more, of wetland's vegetation and is of high quality or more, of wetland's vegetation and is of high quality or more, of wetland's vegetation and is of high quality or more, of wetland's vegetation and is of high and is of high quality or more for lative species and is of high quality or more, of wetland's vegetation and is of high quality or more, of wetland's vegetation and is of high and is of high quality or more, of wetland's vegetation and is o	2 2	Metric 6. Plant commun	ities, inte	erspersion, microto	ppography.
Aquatic bed Emergent Shrub Forest Mudflats Open water Other Other Other High (5) Moderately high (4) Moderately low (2) Low (7) None (9) Extensive >75% cover (-5) Moderate 25-75% cover (-5) Moderate 25-75% cover (-5) Moderate 25-75% cover (-5) Moderate 25-75% cover (-7) Nearly absent ± 5% cover (0) Absent (1)  Absent (1)  Absent (1)  Absent (1)  Amphibian breeding pools  1 Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality  2 Present and either comprises significant part of wetland's vegetation and is of high quality  3 Present and comprises significant part of wetland's vegetation and is of high quality  3 Present and comprises significant part of wetland's vegetation and is of high quality  4 Present and either comprises significant part of wetland's vegetation and is of high quality  5 Present and either comprises significant part of wetland's vegetation and is of high quality  6 Present and either comprises significant part of wetland's vegetation and is of high quality  7 Present and either comprises significant part of wetland's vegetation and is of high quality  8 Present and either comprises significant part of wetland's vegetation and is of high quality  9 Present and comprises significant part of wetland's vegetation and is of high quality or of more, of wetland's vegetation and is of high quality or of more, of wetland's vegetation and is of high quality or of more, of wetland's vegetation and is of high quality or of more, of wetland's vegetation and is of high quality or of more, of wetland's vegetation and is of high quality or of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more of more	max 20 pts. sul	=			
Emergent   Shrub   Shrub   Shrub   Shrub   Forest   Shrub   Forest   Shrub					
Shrub   Forest   Forest   Mudflats   Open water   Other   Other   Other   Select only one.   High (5)   Moderately high(4)   Moderately high(4)   Moderately low (2)   Low (1)   Z None (0)   Moderately low (2)   Low (1)   Z None (0)   Moderate 25-75% cover (-5)   Moderate 25-75% cover (-5)   Moderate 25-75% cover (-5)   Moderate 25-75% cover (-5)   Moderate 25-75% cover (-1)   Nearly absent <-5% cover (0)   Absent (1)   Gd. Microtopography.   Score all present using 0 to 3 scale.   1 Vegetated hummucks/tussucks   Coarse woody debris > 15cm (6in)   Standing dead <-25cm (10in) dbh   1 Amphibian breeding pools   Microtopography   Present in moderate amounts, but not of highest quality   Present in moderate or greater amounts		'	ı	-	-
Mudflats					
Open water		Forest	2	Present and either comprises sign	nificant part of wetland's
8b. horizontal (plan view) Interspersion.  Select only one.  High (5)  Moderately high(4)  Low (1)  Low (1)  None (0)  6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-1)  Nearly absent <5% cover (-1)  Nearly absent <5% cover (0)  Absent (1)  6d. Microtopography.  Score all present using 0 to 3 scale.  Wegetated hummucks/tussucks Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  Amphibian breeding pools  Absent  Microtopography Cover Scale  Apphibian breeding pools  Microtopography Cover Scale  Microtopography Cover Scale  O Absent  Present and comprises significant part, or more, of wetland's vegetation and is of high quality  Low sp diversity and/or predominance of nonnative or disturbance tolerant native spp acceptance on although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally who presence of rare threatened or endangered spp  high A predominance of native species diversity moderate to moderately high, but generally who presence of rare threatened or endangered spp  high A predominance of native species diversity moderate to moderately high, but generally who presence of rare threatened or endangered spp  high A predominance of native species disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance tolerant native spp  and/or disturbance t		<b></b>			uality or comprises a small
6b. horizontal (plan view) Interspersion.  Select only one.  High (5)  Moderately high(4)  Moderate (3)  Mone (10)  Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage  Extensive >75% cover (-5)  Mearly absent <5% cover (0)  Absent (1)  6d. Microtopography.  Score all present using 0 to 3 scale.  To yegetation and is of high quality  Narrative Description of Vegetation Quality  Low spo diversity and/or predominance of nonnative or disturbance tolerant native species with various and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderate by high, but generally w/o presence of rare threatened or endangered spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or		·		<u> </u>	
Select only one.  High (5)  Moderately high(4)  Moderately (3)  Moderately low (2)  Low (1)  None (0)  6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-6)  Moderate 25-75% cover (-1)  Nearly absent (5% cover (0)  Absent (1)  6d. Microtopography.  Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks  Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  1 Amphibian breeding pools  Marrative Description of Vegetation Quality  low Low spp diversity and/or predominance of nonnative or disturbance tolerant native species  mod Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  A predominance of native species with nonnative spp and/or disturbance tolerant native spp 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  A predominance of native species with nonnative spp and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately pidh, but generally w/o presence of rare threatened or endangered spp  A presence of rare, threatened, or endangered spp  Mudflat and Open Water Class Quality  0 Absent <0.11n (0.247 to 2.47 acres)  1 Low 0.11 to <11n (0.247 to 2.48 acres)  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  3 Present in moderate or greater amounts and of highest quality			3		
High (5)  Moderately high(4)  Moderately low (2)  Low (1)  Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-1)  Nearly absent <5% cover (0)  Absent (1)  Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks  Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  Amphibian breeding pools  Marrative Description of Vegetation Quality  Low spp diversity and/or predominance of nonnative or distribunce tolerant native species  mod  Attive spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  A predominance of native species, with nonnative spp and/or disturbance tolerant native spp assent 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 <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		, .		Togotation and to or riight quality	
Moderate (3)			Narrative Des	scription of Vegetation Quality	
Moderately low (2) Low (1) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-1) Nearly absent <5% cover (0) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale.  Vegetated hummucks/tussucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Microtopography Cover Scale  O Absent Present irm moderate amounts, but not of highest quality Present in moderate amounts of highest quality And have spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  high A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent core frame threatened or endangered spp  high A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent colerant native spp absent or virtually absent colerant native spp and/or disturbance tolerant native spp and/or disturbance			low		
Low (1)    Jone (0)   Sc. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage   Extensive >75% cover (-5)   Moderate 25-75% cover (-3)   Vaperated hummucks/tussucks   Coarse woody debris >15cm (6in)   Standing dead >25cm (10in) dbh   1 Amphibian breeding pools   Amphibian breeding pools   Amphibian breeding pools   Amphibian breeding pools   Albent (1)   Present in moderate amounts, but not of highest quality   Present in moderate amounts of highest quality   Present in moderate amounts of highest quality   Present in moderate amounts and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative spp and/or disturbance of native species, with nonnative spp and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative spp and/or disturbance of native species, with nonnative and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, with nonnative and/or disturbance of native species, wi		` '	mod	<u>'</u>	
can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp    Extensive >75% cover (-5)			mou		
6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Sparse 5-25% cover (-1)  Nearly absent <5% cover (0)  Absent (1)  6d. Microtopography.  Score all present using 0 to 3 scale.  Vegetated hummucks/tussucks  Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  Amphibian breeding pools  Microtopography Cover Scale  Migh 4 predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp  Mudflat and Open Water Class Quality  0 Absent <1 Low 0.1 to <1ha (0.247 acres)  1 Low 0.1 to <1ha (0.247 to 9.88 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		` ` '			
or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Value of the present using 0 to 3 scale.  Vegetated hummucks/tussucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Microtopography Cover Scale  Microtopography Cover Scale  Microtopography Cover Scale  Microtopography Cover Scale  Present very small amounts or if more common of marginal quality  Present in moderate amounts, but not of highest quality  Response of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp  Mudflat and Open Water Class Quality  O Absent Class Quality  1 Low 0.1 to <1ha (0.247 acres)  2 Moderate 1 to <4ha (2.47 to 9.88 acres)  3 High 4ha (9.88 acres) or more  Microtopography Cover Scale  O Absent  Present very small amounts or if more common of marginal quality  Present in moderate amounts, but not of highest quality or in small amounts of highest quality  Response of native species, with nonnative spp and/or disturbance tolerant native speakers and of high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp  Mudflat and Open Water Class Quality  Development of the presence of rare, threatened, or endangered spp  Mudflat and Open Water Class Quality  Development of the presence of rare, threatened, or endangered spp  Mudflat and Open Water Class Quality					w/o presence of rare
Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Sparse 5-25% cover (-1)  Nearly absent <5% cover (0)  Absent (1)  6d. Microtopography.  Score all present using 0 to 3 scale.  Vegetated hummucks/tussucks  Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  Amphibian breeding pools  Microtopography Cover Scale  0 Absent  1 Present very small amounts or if more common of marginal quality  Present in moderate amounts, but not of highest quality  3 Present in moderate or greater amounts and of highest quality					
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.  1 Vegetated hummucks/tussucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Microtopography Cover Scale  Microtopography Cover Scale  Microtopography Cover Scale  Microtopography Cover Scale  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		·	high	, ·	
Sparse 5-25% cover (-1) Nearly absent <5% cover (0) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale.  Vegetated hummucks/tussucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Microtopography Cover Scale  Description of marginal quality  Present very small amounts or if more common of marginal quality  Present in moderate amounts, but not of highest quality  Present in moderate or greater amounts and of highest quality		` '			
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Score all present using 0 to 3 scale.    1		` '			
Vegetated hummucks/tussucks   Coarse woody debris >15cm (6in)     Standing dead >25cm (10in) dbh     Amphibian breeding pools   Microtopography Cover Scale     O Absent     Present very small amounts or if more common of marginal quality     2 Present in moderate amounts, but not of highest quality     3 Present in moderate or greater amounts and of highest quality				` '	eres)
Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Microtopography Cover Scale  O 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					
Amphibian breeding pools    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					
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		1 Amphibian breeding pools			
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					more common
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			1	•	HOLE CONTINUE
quality or in small amounts of highest quality  3 Present in moderate or greater amounts and of highest quality			2		t not of highest
and of highest quality				quality or in small amounts of h	ighest quality
			3		nounts
	27 <b>G</b> I	RAND TOTAL (max 100 pts)		and or nignest quality	



Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-01  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.001  LENGTH OF STREAM REACH (ft) 200 LAT 39.02297 LONG -83.01206 RIVER MILE  DATE 01/20/2021 SCORER BAO, JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	tions
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO	OVERY
TYPE	HEI etric ints estrate x = 40
	Depth x = 30
COMMENTS MAXIMUM POOL DEPTH (inches) 1.00	
□ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Wi	nkfull idth x=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 3.00	
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R L R  Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m Residential, Park, New Field Open Pasture, Row Crop None Residential, Park, New Field Open Pasture, Row Crop Fenced Pasture Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  O.5 3.0  O.5 3.0  STREAM GRADIENT ESTIMATE	
☐ Flat (0.5 th/100 ft) ☐ Flat to Moderate ☐ Moderate (2 th/100 ft) ☐ Moderate to Severe ☐ Severe (10 th/100 ft)	

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.80 mile CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_N 100% Canopy (% open): Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID (attach results): Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location substation mowed ROW

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	27
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-02  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.01  LENGTH OF STREAM REACH (ft) 129 LAT 39.02164 LONG -83.01314 RIVER MILE  DATE 01/20/2021 SCORER BAO COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instr	
STREAM CHANNEL MODIFICATIONS: ☑ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO REPORT OF NO REPORT OF NO REPORT OF NO RECENT OF NO	
TYPE   PERCENT   TYPE   PERCENT   30%   SILT [3 pt]   30%   SILT [3 pt]   5%   SILT [3 pt	HHEI Metric Points Substrate Max = 40  17
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the	ool Depth Max = 30
> 22.5 - 30 cm [30 pts]	5
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 3.00	-
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Moderate 5-10m Marrow <5m None Residential, Park, New Field Mining or Construction COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1) Flat to Moderate  Moderate (2 \$100 \$1) Moderate to Severe  Severe (10 \$100 \$1)	R)

# QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.82 mile Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 50% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	39
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-03  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.1  LENGTH OF STREAM REACH (ft) 200 LAT 39.02134 LONG -83.01349 RIVER MILE  DATE 01/20/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Ins  STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N  Culverted and riparian cleared	tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30  15  Bankfull Width Max=30  5
district Plans in Principal in Special Parties in the Control	
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH	5
STREAM GRADIENT ESTIMATE  Flat (0.5 to 100 to) Flat to Moderate  Moderate (2 to 100 to) Moderate to Severe  Severe  Severe (10 to 10	00 m)
	207

## ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.83 mile Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_N 80% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	7
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-04  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.00  LENGTH OF STREAM REACH (ft) 200 LAT 39.02073 LONG -83.01389 RIVER MILE  DATE 01/20/2021 SCORER BAO, JFW COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru STREAM CHANNEL MODIFICATIONS: NONE/ NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECEIVED RECOVERING RECOVERING RECOVERING RECENT OR NO RECEIVED RECOVERING REC	
TYPE	HHEI Metric Points substrate Max = 40  7
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	ool Depth Max = 30
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Bankfull Width Max=30
This information mustalso be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None     ✓ 1.0     ☐ 2.0     ☐ 3.0       0.5     ☐ 1.5     ☐ 2.5     ☐ >3	
STREAM GRADIENT ESTIMATE  Flat (0.5 to 100 to) Flat to Moderate Moderate (2 to 100 to) Moderate to Severe Severe Severe Severe 10 to 100 to	Ŋ

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.88 mile CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_N 60% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location ROW scrub-shrub

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	5]
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-05  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.067  LENGTH OF STREAM REACH (ft) 77 LAT 39.01782 LONG -83.02038 RIVER MILE  DATE 01/20/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru-	
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECUIVERT; 4wheel trails	
TYPE	HHEI letric oints ibstrate ax = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  30 centimeters [20 pts]  5 cm - 10 cm [15 pts]	ol Depth ax = 30
COMMENTS MAXIMUM POOL DEPTH (inches) 4.00  3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): Bank Full width (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	ankfull
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	Width lax=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)  This information mustalso be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None	
☐ Flat (0.5 ±100 ±) ☐ Flat to Moderate ☐ Moderate (2 ±100 ±) ☐ Moderate to Severe ☐ Severe (10 ±100 ±)	S S

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 80% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location upland herb scrub-shrub undefined drainage from pond

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	16
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-06  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.0  LENGTH OF STREAM REACH (ft) 200 LAT 39.01786 LONG -83.01771 RIVER MILE  DATE 01/20/2021 SCORER BAO, JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Ins  STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO	tructions
Culverted; access road crosses  1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] 0% SILT [3 pt] 0%  BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 25%  BEDROCK [16 pts] 0% FINE DETRITUS [3 pts] 0%  COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt] 70%  GRAVEL (2-64 mm) [9 pts] 5% MUCK [0 pts] 0%  SAND (<2 mm) [6 pts] 0% ARTIFICIAL [3 pts] 0%  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    30 centimeters [20 pts]	Pool Depth Max = 30  5  Bankfull Width Max=30  5
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Field Urban or Industrial  Narrow <5m Residential, Park, New Field Open Pasture, Row Cro  None Fenced Pasture Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermitten Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  7.5 3.5 3.0  7.5 1.5 2.5 3.0	5
STREAM GRADIENT ESTIMATE  Flat (0.5 \$1100 \$1) Flat to Moderate  Moderate (2 \$1100 \$1) Moderate to Severe  Severe (10 \$110	0 ft)

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### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 90% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location wooded herb to scrub-shrub ROW

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-05  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.001  LENGTH OF STREAM REACH (ft) 49 LAT 39.01606 LONG -83.01361 RIVER MILE  DATE 01/21/2021 SCORER BAO COMMENTS Ephemeral but portion underground  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	ions
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERED Access road and soil disturbance throughout area	OVERY
BLDR SLABS [16 pts]	tric nts strate = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Depth = 30
□ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	kfull dth t=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)	_4
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
0.5	_

## QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 60% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location upland herb ROW

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-02  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.001  LENGTH OF STREAM REACH (ft) 137 LAT 39.01602 LONG -83.01001 RIVER MILE  DATE 01/21/2021 SCORER JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	ions
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECUPPOR ITEM TO THE PROPERTY OF THE PROPERTY	OVERY
COBBLE (65-256 mm) [12 pts]	tric nts strate = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Depth = 30
□ > 4.0 meters (> 13") [30 pts] □ > 1.0 m - 1.5 m (> 3" 3" - 4" 8") [15 pts] □ > 3.0 m - 4.0 m (> 9" 7" - 13") [25 pts] □ > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts] □ > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts]	=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 1.00  This information mustals o be completed	-192
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: RiverLeft (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
✓ None       1.0       2.0       3.0         0.5       1.5       2.5       >3	
STREAM GRADIENT ESTIMATE  Flat (0.5 th 100 th)  Flat to Moderate	

## QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Big Run Distance from Evaluated Stream >2 miles CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 50% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location scrub-shrub mowed

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-03  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.020  LENGTH OF STREAM REACH (ft) 200 LAT 39.01578 LONG -83.00876 RIVER MILE DATE 01/21/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items On This Form - Refer to "Field Evaluation Manual For Ohio's PHWH Streams" for Instruction Complete All Items O	ons
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECO	
COBBLE (65-256 mm) [12 pts]   25%   CLAY or HARDPAN [0 pt]   0%     GRAVEL (2-64 mm) [9 pts]   35%   MUCK [0 pts]   0%     SAND (<2 mm) [6 pts]   30%   ARTIFICIAL [3 pts]   0%      Total of Percentages of Bldr Slahe Boulder Cobble Bedrock   25%   (A)   A+	tric nts strate = 40
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15  TOTAL NUMBER OF SUBSTRATE TYPES: 4  2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	8
COMMENTS MAXIMUM POOL DEPTH (inches) : 3.00	
□ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]	=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Moderate 5-10m Mining or Construction COMMENTS  FLOODPLAIN QUALITY (Most Predominant per Bank) L R  L R  Conservation Tillage Immature Forest, Shrub or Old Field D Urban or Industrial Open Pasture, Row Crop Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1) Flat to Moderate  Moderate (2 \$100 \$1) Moderate to Severe  Severe (10 \$100 \$1)	_

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### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 20% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012121-04 FLOW -BAO-012121-0

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	28
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-04  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.0  LENGTH OF STREAM REACH (ft) 190 LAT 39.01578 LONG -83.00865 RIVER MILE  DATE 01/21/2021 SCORER JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Inst	
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ✓ RECOVERED ☐ RECOVERING ☐ RECENT OR NO Upper riparian mowed	RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] 0% SILT [3 pt] 30%  BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 10%  BEDROCK [16 pts] 0% FINE DETRITUS [3 pts] 0%  COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 10%  GRAVEL (2-64 mm) [9 pts] 30% MUCK [0 pts] 0%  SAND (<2 mm) [6 pts] 10%  Total of Percentages of Bids Slabs Boulder Cabble Bedrock 10%	HHEI Metric Points Substrate Max = 40
Bidr Slabs, Boulder, Cobble, Bedrock 10/8 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 6	A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):  □ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]  □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ ≤ 1.0 m (≤ 3' 3") [5 pts]  □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 2.00	
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	1 <b>8</b> )

### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Big Run Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 20% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012121-04 FLOW -BAO-012121-0

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-01  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (miř) 0.060  LENGTH OF STREAM REACH (ft) 50 LAT 39.01574 LONG -83.00873 RIVER MILE  DATE 01/21/2021 SCORER BAO COMMENTS INTERMITTENT	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction  STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING, and artificial substrate	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  TYPE  PERCENT  PERCENT  O'S SILT [3 pt]  BOULDER (>256 mm) [16 pts]  Wether the percent of every type present). Check ONLY two predominant substrate TYPE boxes.  HH  Mether the percent of every type present). Check ONLY two predominant substrate TYPE boxes.  HH  Mether the percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  HH  Mether the percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  HH  Mether the percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  HH  Mether the percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every two predominant substrate TYPE boxes.  SUBSTRATE (Estimate percent of every two predominant substrate T	tric nts strate = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box):    30 centimeters [20 pts]	kfull hth
□ > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] □ ≤1.0 m (≤ 3' 3") [5 pts]  □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]  COMMENTS ■ AVERAGE BANKFULL WIDTH (feet)   5.00	-
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH  L R (Per Bank)  L R  Mature Forest, Wetland  Moderate 5-10m  Mature Forest, Shrub or Old Field  Mature Forest, New Field  Proced Pasture  COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None     □ 1.0     □ 2.0     □ 3.0       □ 0.5     □ 1.5     □ 2.5     □ >3	
STREAM GRADIENT ESTIMATE  Flat (0.5 th 100 th) Flat to Moderate Moderate (2 th 100 th) Moderate to Severe Severe Severe (10 th 100 th)	

### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 40% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012121-04 FLOW -BAO-012121-0

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	1
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-01  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.02  LENGTH OF STREAM REACH (ft) 200 LAT 39.01444 LONG -83.01204 RIVER MILE  DATE 01/22/2021 SCORER BAO COMMENTS Ephemeral; high gradient  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instr	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO FINANCE Stream begins definition at culvert; high gradient	RECOVERY
TYPE         PERCENT         TYPE         I 10%           □ BLDR SLABS [16 pts]         0%         □ LEAF PACK/WOODY DEBRIS [3 pts]         0%           □ BEDROCK [16 pts]         15%         □ FINE DETRITUS [3 pts]         0%           □ COBBLE (65-256 mm) [12 pts]         15%         □ CLAY or HARDPAN [0 pt]         0%           □ GRAVEL (2-64 mm) [9 pts]         25%         □ MUCK [0 pts]         0%           □ SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40  31
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 25 TOTAL NUMBER OF SUBSTRATE TYPES: 6	ool Depth
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  > 30 centimeters [20 pts]	Max = 30
	Bankfull
- 1.0 m - 1.0 m (- 0 0 - 1 0 ) [10 pts]	Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 4.00	15
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Moderate 5-10m Narrow <5m None Residential, Park, New Field Mining or Construction COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral	Addition.
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):           □ None         □ 1.0         □ 2.0         □ 3.0           □ 0.5         □ 1.5         □ 2.5         □ >3	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$) Flat to Moderate Moderate (2 \$100 \$) Moderate to Severe Severe Severe (10 \$100 \$)	i)

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#### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 10% Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) If not, explain: Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location Boulders undefined / drainage S-BAO-012221-02

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

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION AEP Arboles Station and Transmission Lines Project, S-BAO-012221-02  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.590  LENGTH OF STREAM REACH (ft) 200 LAT 39.01359 LONG -83.01251 RIVER MILE  DATE 01/22/2021 SCORER BAO, JFW COMMENTS Perennial	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	ions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERING RECOVERING RECOVERING RECENT OR NO RECOVERING RECOVER	OVERY
COBBLE (65-256 mm) [12 pts]   30%   CLAY or HARDPAN [0 pt]   0%     GRAVEL (2-64 mm) [9 pts]   30%   MUCK [0 pts]   0%     SAND (<2 mm) [6 pts]   10%   ARTIFICIAL [3 pts]   0%	tric nts strate = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 50% SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  A +	В
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Depth = 30
COMMENTS MAXIMUM POOL DEPTH (inches) 12	
✓ > 4.0 meters (> 13") [30 pts]       → 1.0 m - 1.5 m (> 3" 3" - 4" 8") [15 pts]         ✓ > 3.0 m - 4.0 m (> 9" 7"-13") [25 pts]       → 1.0 m (< 3" 3") [5 pts]	kfull dth =30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 15	
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH  L R (Per Bank)  L R  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Narrow <5m  None  Residential, Park, New Field  COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS	
SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	
STREAM GRADIENT ESTIMATE  Flat (0.5 to 100 to)  Flat to Moderate  Moderate (2 to 100 to)  Moderate to Severe  Severe (10 to 100 to)	_

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

DOWNSTREAM DESIGNATED USE(S)	
☑ WWH Name: Scioto River	Distance from Evaluated Stream >2 miles
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
	UDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Piketon, OH	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Pike	Township/City: Scioto Township
MISCELLANEOUS	
Base Flow Conditions? (Y/N). Date of last p	precipitation: 01/16/21 Quantity: 0.20
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): N Canopy (% o	ppen): 10%
Were samples collected for waterchemistry?(Y/N):	N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygo	20 300 SCHOOLS MAN NO ARRESTO 20 50 1
Is the sampling reach representative of the stream (Y	
a tre sumpling reachinepresentative of the suddiff (1	THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT O
Additional comments/description of pollution impacts:	ka
Frogs or Tadpoles Observed? (Y/N) N Species Salamanders Observed? (Y/N) N Species observed	f known):s observed (if known):erved (if known):Species observed (if known):
	ESCRIPTION OF STREAM REACH (This <u>must</u> be completed) ures of interest for site evaluation and a narrative description of the stream's location
	P ( )
	F) (P) (P) (P) (P) (P) (P) (P) (P) (P) (P

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-03  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.220  LENGTH OF STREAM REACH (ft) 200 LAT 39.01161 LONG -83.01267 RIVER MILE  DATE 01/22/2021 SCORER JFW COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☑ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECUlverted and formerly channelized	
TYPE	HEI etric pints pstrate ex = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Depth ix = 30
□ > 4.0 meters (> 13') [30 pts]       □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]         □ > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts]       □ ≤ 1.0 m (≤ 3' 3") [5 pts]         □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	nkfull fidth ax=30
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Intermittent  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
None	

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 30% Canopy (% open): Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: Orange film on substrate BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: One gray spotted frog observed DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location -BAO-012221-04 slope Boulder S-BAO-012221-03

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-04  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.062  LENGTH OF STREAM REACH (ft) 72 LAT 39.01096 LONG -83.01204 RIVER MILE  DATE 01/22/2021 SCORER JFW COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction  STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECEIVED RECOVERING RECEIVED RECOVERING RECEIVED RECOVERING RECEIVED RECOVERING RECEIVED REC	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] 0% SILT [3 pt] 5%  BOULDER (>256 mm) [16 pts] 5% LEAF PACK/WOODY DEBRIS [3 pts] 0%  BEDROCK [16 pts] 50% FINE DETRITUS [3 pts] 0%  COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt] 0%  GRAVEL (2-64 mm) [9 pts] 30% MUCK [0 pts] 0%  SAND (<2 mm) [6 pts] 5% ARTIFICIAL [3 pts] 0%  Bldr Slabs, Boulder, Cobble, Bedrock 60%  (A) 25	ric nts trate = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	= 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):  □ > 4.0 meters (> 13') [30 pts] □ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]  ■ 15	th =30
AVERAGE BANKFULL WIDTH (IEEC)	
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R  Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None	_

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 50% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012221-04 Culvert S-BAO-012221-03

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-05  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.038  LENGTH OF STREAM REACH (ft) 199 LAT 39.00896 LONG -83.01198 RIVER MILE  DATE 01/22/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the complete	tions
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING RECENT OR NO RECOVERING RECENT OR NO RECOVERING RECENT OR NO RECOVERING RECENT OR NO RECOVERING RECOVERING RECENT OR NO RECOVERING RECO	OVERY
TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         20%         Do%         SILT [3 pt]         20%         PO           BULDER (>256 mm) [16 pts]         0%         □         □         LEAF PACKWOODY DEBRIS [3 pts]         0%         Sub           BULDER (256 mm) [12 pts]         10%         □         CLAY or HARDPAN [0 pt]         0%         Sub           Max         □         GRAVEL (2-64 mm) [9 pts]         40%         □         MUCK [0 pts]         0%         □           □         SAND (<2 mm) [6 pts]	HEI etric ints strate x = 40
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]     > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]     > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]	Depth k = 30
COMMENTS MAXIMUM POOL DEPTH (inches) 1.50	7/1
□ > 4.0 meters (> 13") [30 pts]       □ > 1.0 m - 1.5 m (> 3" 3" - 4" 8") [15 pts]         □ > 3.0 m - 4.0 m (> 9" 7"-13") [25 pts]       □ ≤ 1.0 m (≤ 3" 3") [5 pts]         □ > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts]	nkfull dth x=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Moderate 5-10m Mining or Construction  COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):           □ None         □ 1.0         □ 2.0         □ 3.0           ☑ 0.5         □ 1.5         □ 2.5         ⇒3	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1) Flat to Moderate  Moderate (2 \$100 \$1) Moderate to Severe  Severe (10 \$100 \$1)	_

Page 1

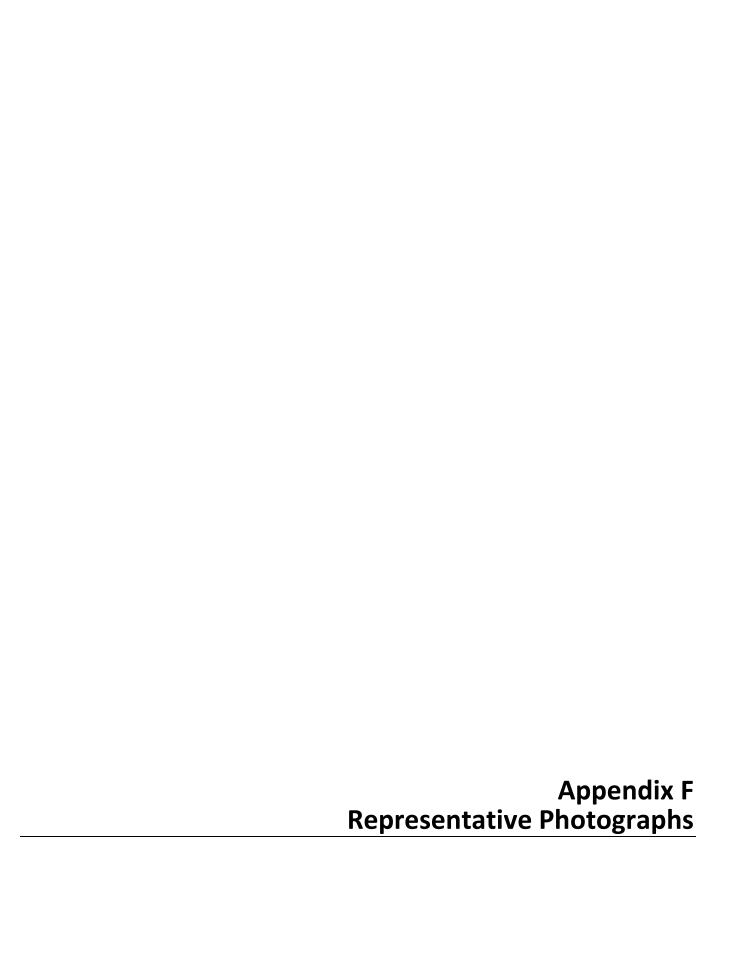
### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 20% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field; maintained ROW

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



**Jacobs** 

Oucobs.					
POND DATA SHEET					
Pond AS- FEATURE ID: (P-BAO-0		ASSOCIATE	Wetland AS-006 (W-BAO-012121-04), DFEATURES: Stream AS-011 (S-BAO-012121-01),		
Survey Type: Wetland and v	Stream AS-013 (S-BAO-012221-02)				
DATE: 01/21/2021	CLIENT/PROJECT NAME: AEP Arboles Station and Transmission Lines				
Investigators: Ben Otto/Jen Wessel  Route: Existing C		ROUTE: Existing C	Centerline		
STATE/COUNTY: Ohio/Pike County			IS THIS A MAPPED NWI FEATURE?:		
WATERBODY CHARACTERISTICS					
WATERBODY TYPE:	Pond				
AVG. DEPTH:	24"				
AVG. WIDTH (WATER SURFACE):	100'				
APPROXIMATE SIZE:	0.21 acres in survey corridor, extends beyond western boundary of survey corridor.				
		Qualitativi	E ATTRIBUTES		
AVERAGE WATER APPEARANCE:	Cloudy brown-green				
PRIMARY SUBSTRATE (IF OBSERVED):	Silt				
POTENTIAL HABITAT FOR:	Amphibians				
SURROUNDING LAND USE:	Mowed commercial lawn				
WETLAND FRINGE (IF PRESENT):	N/A				
COMMENTS					
Retention pond fed by Wetland AS-006 and Stream AS-011. Monk overflow outlet leads to culvert at head of Stream AS-013.					







Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate





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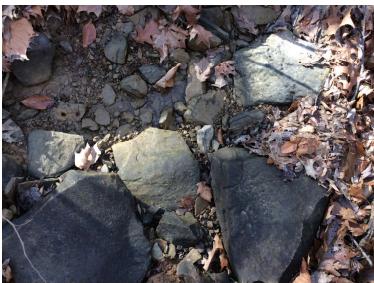


Upstream Downstream



Substrate





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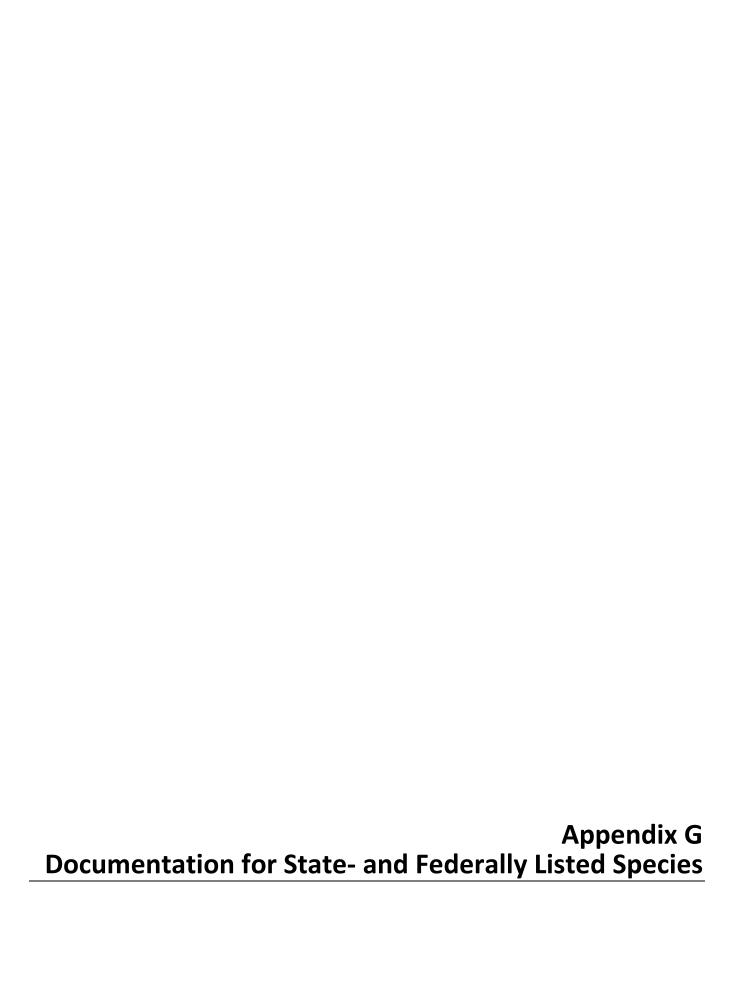




Soil S







# Otto, Ben/CIN

From: Ohio, FW3 <ohio@fws.gov>

**Sent:** Monday, March 22, 2021 10:43 AM **To:** Otto, Ben/CIN; Grant S Stuller

Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate

**Subject:** [EXTERNAL] AEP - Arboles Station Transmission Lines Project in Scioto Township, Pike

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# 03E15000-2021-TA-1017

Dear Mr. Otto,

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

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  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 <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), 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.

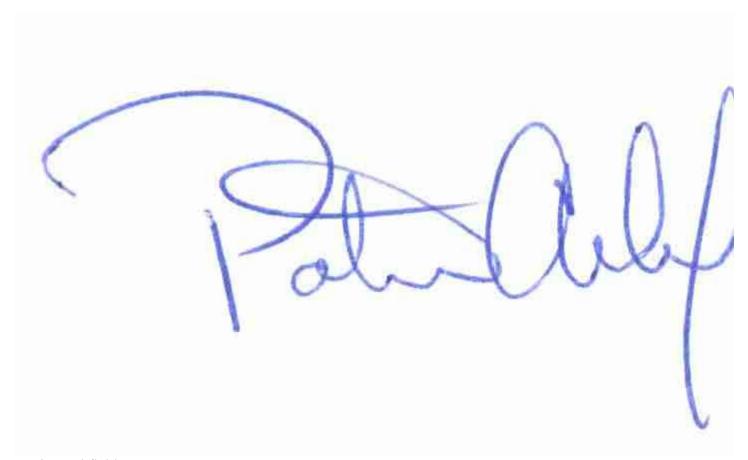
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf). We recommend avoiding and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

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

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

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

Sincerely,



Patrice Ashfield Field Office Supervisor

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



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

May 6, 2021

Ben Otto 2 Crowne Point Court Suite 100 Cincinnati, Ohio 45241

Re: 21-0342; AEP Arboles Station and Associated Transmission Lines Project

**Project:** The proposed project includes the construction of five 138 kilovolt (kV) transmission lines, the removal of approximately 0.8-mile of existing 100-foot 138 kV transmission line right-of-way (ROW,) rebuilding approximately 0.4- mile of existing 100-foot 138 kV line ROW, and the construction of the Arboles substation.

**Location:** The proposed project is located in Scioto Township, Pike 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 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 entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". https://ohiodnr.gov/static/documents/wildlife/wildlifemanagement/Bat+Survey+Guidelines.pdf

If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, <a href="mailto:sarah.stankavich@dnr.state.oh">sarah.stankavich@dnr.state.oh</a>.

The DOW also recommends that a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) present within the project area. Information about how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana Bat Survey Guidelines." If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the project area, please send this information to Sarah Stankavich, <a href="mailto:sarah.stankavich@dnr.state.oh.us">sarah.stankavich@dnr.state.oh.us</a> 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species. The project is within the range of the following listed mussel species:

## Federally Endangered

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

#### **State Endangered**

Ohio pigtoe (*Pleurobema cordatum*) washboard (*Megalonaias nervosa*) yellow sandshell (*Lampsilis teres*)

# State Threatened

black sandshell (*Ligumia recta*) fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*)

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

The project is within the range of the following listed fish species:

#### State Endangered

bigeye shiner (Notropis boops)
goldeye (Hiodon alosoides),
popeye shiner (Notropis ariommus),
shoal chub (Macrhybopsis hyostoma),
shortnose gar (Lepisosteus platostomus),
shovelnose sturgeon (Scaphirhynchus platorynchus),

## State Threatened

blue sucker (*Cycleptus elongatus*), channel darter (*Percina copelandi*), paddlefish (*Polyodon spathula*) river darter (*Percina shumardi*), Tippecanoe darter (*Etheostoma tippecanoe*)

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

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

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

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

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 U.S. 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.

 $\frac{http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community\\ \%20Contact%20List\_8\_16.pdf$ 

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <a href="mailto:Sarah.Tebbe@dnr.state.oh.us">Sarah.Tebbe@dnr.state.oh.us</a> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)

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

6/21/2022 3:33:21 PM

in

Case No(s). 22-0447-EL-BLN

Summary: Letter of Notification FOR ARBOLES STATION 138 KV TRANSMISSION LINE ADJUSTMENT PROJECT electronically filed by Hector Garcia-Santana on behalf of Ohio Power Company