Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

June 1, 2018

Chairman Asim Z. Haque
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

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Re: In the Matter of the Letter of Notification for the East Lima Station Expansion Project
Case No. 18-0906-EL-BLN
Request for Expedited Treatment

Dear Chairman Haque,

Attached please find a copy of the Letter of Notification (LON) for the above-referenced project by AEP Ohio Transmission Company, Inc. (AEP Ohio Transco). This filing and notice is in accordance with O.A.C. 4906-6-05.

A copy of this filing will also be submitted to the executive director or the executive director's designee. A copy will be provided to the Board Staff via electronic message. The Company will also submit a check in the amount of $2,000 to the Treasurer, State of Ohio, for Fund 5610 for the expedited fees.

If you have any questions, please do not hesitate to contact me.

Respectfully submitted,

/s/ Christen Blend
Christen Blend (0086881), Counsel of Record
Hector Garcia (0084517)
Counsel for AEP Ohio Transmission Company, Inc.

cc. John Jones, Counsel OPSB Staff
Jon Pawley, OPSB Staff

Letter of Notification For East Lima Station Expansion Project

PUCO Case No. 18-0906-EL-BLN

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

Submitted by:
AEP Ohio Transmission Company, Inc.

June 1, 2018

June 1, 2018

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.'s East Lima Station Expansion Project

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") 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 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.

AEP Ohio Transco proposes to expand the existing East Lima Station in Allen County, Ohio ("Project"). The existing 10-acre fenced area is located on an approximately 53-acre property owned by Ohio Power Company. The fenced expansion area will cover approximate 2.4 additional acres on the 53-acre property. The fence expansion is due to upgrades in substation equipment. Figure 1 shows the existing fence and expansion area.

The Project meets the requirements for a Letter of Notification because it is within the types of projects defined by Item (4)(b) of Appendix A to O.A.C. 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

4. *Constructing additions to existing electric power transmission station or converting distribution stations to transmission station where:*

    (b) There is a greater than twenty percent expansion of the fenced area.

The Project has been assigned PUCO Case No. 18-0906-EL-BLN

B(2) Statement of Need

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

The work at East Lima Station causing the fence expansion addresses multiple asset renewal drivers. The fence expansion is most directly impacted by the installation of new control house modules at the station that will replace the existing control house due to age, maintenance, and flooding risks. This specific supplemental work has not been submitted to PJM because it does not have any effect on system modeling or operational ratings changes. There are, however, also 345kV switch replacements included within the Project scope, which are necessary to support PJM project b2969. The existing East Lima station and associated lines are referenced on pages 65-66 of Ohio Power Company's 2018 LTFR and attached as Appendix B.

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B(3) Project Location

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

The location of the Project in relation to existing transmission lines and stations is shown on Figure 2. The Project impacts the following existing facilities:

- East Lima Station.
- East Lima-Haviland 138 kV transmission line, East Lima-N. W. Lima 138 kV transmission line, East Lima-Ford 138 kV transmission line, Thayer Road-East Lima 138 kV transmission line, East Lima-Lima 138 kV transmission line, East Lime-S. W. Lima 354 kV transmission line, East Lima-Marysville 345 kV transmission line, East Lima-N. Woodcock 138 kV transmission line, East Lima-Fostoria Ctl 345 kV transmission line, East Lima-Robison Park 345 kV transmission line, and East Lima-Sorenson 345 kV transmission line.

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 proposed Project is an expansion of an existing transmission station on fallow land and therefore was determined to have minimal or no socioeconomic, ecological, construction, or engineering impacts. The expansion site was chosen due to the suitable geography proximity to 138kv & 345kV transmission lines and the presence of road access for construction and maintenance crews. AEP Ohio Transco's engineering and siting consultants thus concluded that the expanded East Lima site at the recommended location for the upgraded substation is the most appropriate option for the proposed Project.

Selection of an alternative site in the region would result in considerably greater socioeconomic and environmental impacts, as it would necessitate the re-route and extension of various transmission lines in order to reach a new transmission substation.

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.

AEP Ohio Transco informs affected property owners and tenants about its projects through several different mediums. Within seven days after filing this LON, AEP Ohio Transco will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements under O.A.C. 4906-6-08(A)(1)-(6). Further, AEP Ohio Transco mailed a letter, via first class mail, to affected landowners, tenants, contiguous owners, and any other landowner AEP Ohio Transco approached for an

easement necessary for the construction, operation, or maintenance of the facility. The letter complies with all the requirements of O.A.C. 4906-6-08(B). AEP Ohio Transco also maintains a website (http://aeptransmission.com/ohio/), which provides the public access to an electronic copy of this LON and the public notice for this LON. A paper copy of the LON will be served to the public library in each political subdivision affected by this proposed Project. Lastly, AEP Ohio Transco retains ROW land agents who discuss project timelines, construction, and restoration activities with affected owners and tenants.

B(6) Construction Schedule

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

Construction of the Project is planned to begin in third quarter of 2018, and the anticipated in-service date is January 2020.

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.

Figures 1 and 2 provide the proposed Project area on a map of 1:24,000-scale. Figure 1 shows the project area on the United States Geologic Service (USGS) 7.5-minute topographic maps of the Cairo (1984) quadrangle. Figure 2 shows the project area on recent aerial photography, as provided by Bing Maps. To access the Project location from Columbus, take I-70 West and follow signs for interstate 70 W/Dayton. In approximately six miles take exit 93 onto I-270 N toward Cleveland and travel nine miles. Take exit 17B and follow signs toward US-33 W and travel approximately 45 miles. Take exit onto OH-117 W toward OH 366/Hunstsville/Lima and merge onto OH-117 W. Travel on OH-117 W for approximately 23 miles then turn right onto S Thayer Road and continue 5.4 miles. Turn left onto E Bluelick Road and travel 1.8 miles. Turn right onto Wolfe Road and East Lima Station will be on the right in approximately 1.2 miles. The approximate address is 4390 Wolfe Road Elida, OH 45807.

B(8) Property Agreements

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

No easements, options, or land use agreements are necessary to construct and operate the Project.

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.

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The equipment and facilities to be installed within the Project area will include the following:

- 138kV Circuit Breakers – (1)
- Relay Panels – (23)
- 138kV Switches – (4)
- 138kV Capacitive Voltage Transformer (CCVT) – (9)
- 138kV Wave Traps – (2)
- 138kV DICM – (1)
- 345kV Switches- (3)
- 345kV Capacitive Voltage Transformer (CCVT) – (3)

B(9)(b) Electric and Magnetic Fields

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

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

B(9)(b)(ii)(c) Project Cost

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $4,000,000.

B(10) Social and Economic Impacts

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

B(10)(a) Operating 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 within Bath Township in Allen County, Ohio. The 2.4-acre expansion area is completely within AEP Ohio's property boundary on agricultural and shrub land. No residences, institutions, or other sensitive land uses were identified within or adjacent to the Project footprint.

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.

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The Project is expected to occupy approximately 1.9 acres of existing agricultural land used for row crops, as well as unused shrub land. The proposed expansion area is adjacent to the existing East Lima Station. Impacts to agricultural land are expected to be minimal. No agricultural district land is impacted.

B(10)(c) Archaeological and Cultural Resources

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

In August 2017, AEP Ohio Transco's consultant completed a Phase I Cultural Resource Management Investigation for the Project. No cultural resources were identified during that investigation. No significant resources that are older than 50 years of age or older were identified within the Project area. The cultural report will be provided to the OPSB Staff. No further work is deemed necessary for this Project.

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.

Once final design of the project is complete, including identification of access roads, a Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000004, because disturbance will exceed one acre. The Project is expected to impact less than 0.5 acre of delineated wetlands. A Pre-Construction Notification (PCN) will be submitted to the United States Army Corps of Engineers for approval under Nationwide Permit 12.

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.

An AEP Ohio Transco consultant prepared a Threatened and Endangered Species Report. The consultant coordinated with the USFWS and ODNR regarding special status species in the vicinity of the Project. No impacts to threatened or endangered species are expected. A copy of the coordination for the Project is included in the Wetland Delineation and Stream Assessment Report included as Appendix A.

B(10)(f) Areas of Ecological Concern

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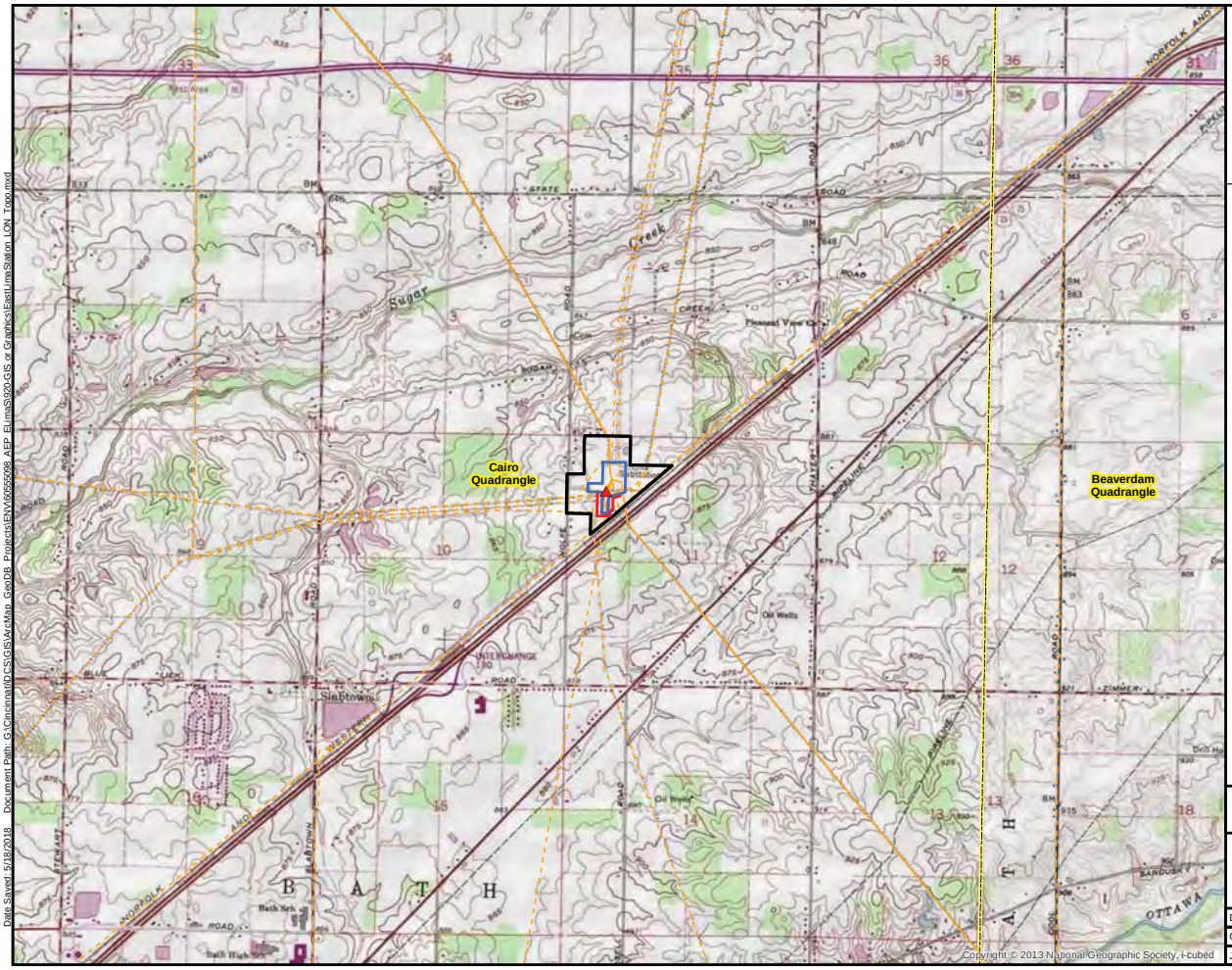
Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife 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.

An AEP Ohio Transco consultant prepared a Wetland Delineation and Stream Assessment Report. The Project is expected to impact less than 0.5 acre of delineated wetlands. A copy of the Wetland Delineation and Stream Assessment Report for the Project is included as Appendix A.

B(10)(g) Unusual Conditions

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

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



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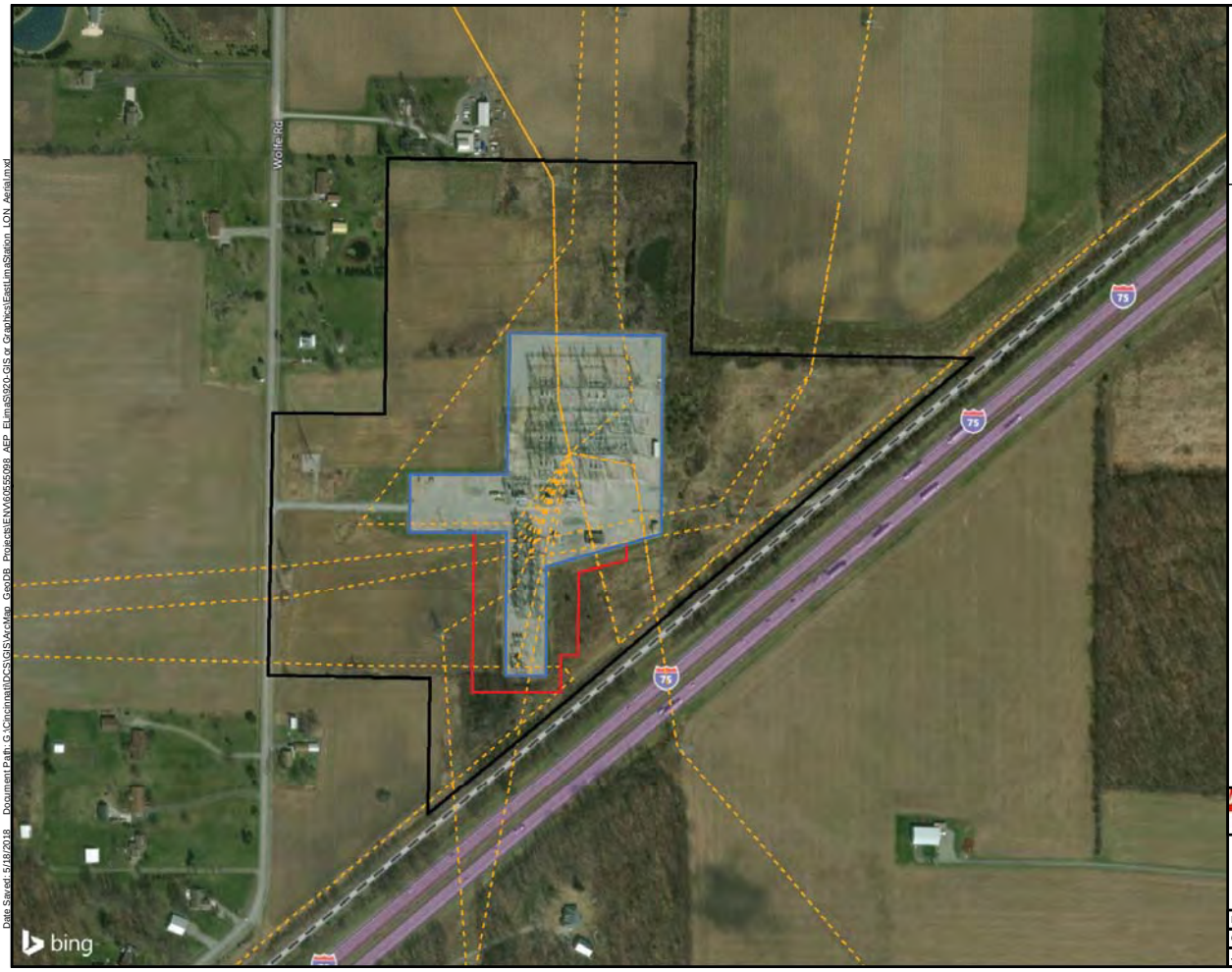
Date Saved: 5/18/2018

ONTO TRANSMISSION COMPANY

East Lima Station Expansion Project

FIGURE 1
PROJECT OVERVIEW

DATE: 5/18/2018	SCALE: 1:24,000
CREATED BY: SJJ	CHECKED BY: AG
JOB NO. 60555098	AECOM



LEGEND:
- East Lima Station Expansion Area
- Existing East Lima Station Fence
- Station Property
- Existing Transmission Line

N

0 300 600

Scale In Feet

Base Map Source:
© 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018)

AEP OHIO TRANSMISSION COMPANY

East Lima Station Expansion Project

FIGURE 2
AERIAL PHOTOGRAPHY OF
THE PROJECT VICINITY

DATE: 5/18/2018	SCALE: 1:3,600
CREATED BY: SJJ	CHECKED BY: AG
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Appendix A Wetland Delineation and Stream Assessment Report

EAST LIMA STATION EXPANSION PROJECT, ALLEN COUNTY, OHIO

WETLAND DELINEATION AND STREAM ASSESSMENT REPORT

Prepared for:
American Electric Power Ohio Transmission Company
700 Morrison Road
Gahanna, Ohio 45230

Prepared by:
AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60555098

April 2018

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TABLES

FIGURES

APPENDICES

LIST OF ACRONYMS and ABBREVIATIONS

AEP Ohio Transco	American Electric Power Ohio Transmission Company
FAC	Facultative
FACU	Facultative upland
FACW	Facultative wetland
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
IBI	Index of Biotic Integrity
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate wetland
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OHWM	Ordinary high water mark
PEM	Palustrine emergent wetland
PFO	Palustrine forested wetland
PSS	Palustrine scrub-shrub wetland
QHEI	Qualitative Habitat Evaluation Index
ROW	Right-of-way
UPL	Upland
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

American Electric Power Ohio Transmission Company's (AEP Ohio Transco) is proposing to expand its existing East Lima Station in Allen County, Ohio. AEP requested that AECOM survey approximately 53 acres that includes the existing 10-acre fenced station and adjacent areas. The fenced expansion area will cover no more than 1.9 additional acres on the 53-acre property owned by AEP. The proposed Project is illustrated on Figure 1.

Land uses within the Project survey area were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys. The general land use type within the proposed Project area included: actively farmed agricultural areas, the existing transmission station, wooded areas, old field areas and maintained transmission line right-of-way (ROW).

2.0 METHODOLOGY

The purpose of the field survey was to assess whether wetlands and other "waters of the U.S." exist within the approximately 53-acre Project survey area. Prior to conducting field surveys, digital and published county Natural Resources Conservation Service (NRCS) soil surveys, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and U.S. Geological Survey (USGS) 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

On September 26th, 2017, AECOM ecologists walked the Project survey area to conduct a wetland delineation and stream assessment. During the field survey, the physical boundaries of observed water features were recorded using sub-decimeter accurate Trimble Global Positioning System (GPS) units. The GPS data was imported into ArcMap GIS software, where the data was then reviewed and edited for accuracy.

2.1 WETLAND DELINEATION

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

Since quantitative data were not available for any of the identified wetlands, AECOM utilized the routine delineation method described in the 1987 Manual and Regional Supplements that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. The methodology used to examine each parameter is described in the following sections.

2.1.1 SOILS

Soils were examined for hydric soil characteristics using a spade shovel to extract soil samples. A *Munsell Soil Color Chart* (Kollmorgen Corporation, 2010) was used to identify the hue, value, and chroma of the matrix and mottles of the soils. Generally, mottled soils with a matrix chroma of two or less, or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory, 1987). In sandy soils, mottled soils with a matrix chroma of three or less, or unmottled soils with a matrix chroma of two or less are considered to be hydric soils.

2.1.2 HYDROLOGY

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

The *Regional Supplement* also stated that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (five years out of ten, or 50 percent probability) date of the last and first 28^{o}F air temperature in the spring and fall, respectively. The National Weather Service WETS data obtained from the NRCS National Water and Climate Center reveals for Allen County that in an average year, this period lasts from April 10 to November 2, or 206 days. In the Project area, five percent of the growing season equates to approximately ten days.

The soils and ground surface were examined for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and the *Regional Supplement.* Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits and oxidized rhizospheres on living roots; and secondary indicators such as drainage patterns, geomorphic position, micro-topographic relief, and a positive Facultative (FAC)-neutral test (USACE, 2010).

2.1.3 VEGETATION

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) was assigned to each plant species based on the USACE *2016 National Wetland Plant List: Midwest Region,* which encompasses the area of the Project. An area is determined to have hydrophytic vegetation when, under normal circumstances, 50 percent or more of the composition of the dominant species are OBL, FACW and/or FAC species. Vegetation of an area was determined to be non-hydrophytic when more than 50 percent of the composition of the dominant species was FACU and/or UPL species. In addition to the dominance test, the FAC-Neutral test and prevalence tests are used to determine if a wetland has a predominance of hydrophytic vegetation. Recent USACE guidance indicates that to the extent possible, the hydrophytic vegetation decision should be based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year (USACE, 2010).

2.1.4 WETLAND CLASSIFICATIONS

Wetlands were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.*, 1979). The identified wetlands within the survey area were classified as a freshwater, Palustrine system, which includes non-tidal wetlands dominated by trees, shrubs, emergents, mosses, or lichens. Three palustrine wetland classes were identified within the Project survey area:

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

- ***PFO*** – Forested wetlands are characterized by woody vegetation that is 3 inches or more diameter at breast height (DBH), regardless of total height. These wetlands generally include an overstory of broad-leaved and needle-leaved trees, an understory of young saplings and shrubs, and an herbaceous layer.

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

2.1.5 OHIO RAPID ASSESSMENT METHOD v. 5.0

The Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method for Wetlands v. 5.0 (ORAM) was developed to determine the relative ecological quality and level of disturbance of a particular

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

Category 1 Wetlands

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

Category 2 Wetlands

Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been degraded to Category 2 status.

Category 3 Wetlands

Wetlands that are assigned to Category 3 have “...superior habitat, or superior hydrological or recreational functions.” They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. A wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a

river may exhibit “superior” hydrologic functions (e.g., flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

2.2 STREAM CROSSINGS

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and “designated uses” to all waters of the U.S. upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act of 1972 and its 1977 and 1987 amendments require knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The USACE defines OHWM as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (USACE, 2005).

Stream assessments were conducted using the methods described in the OEPA’s Methods for Assessing Habitat in Flowing Waters: Using OEPA’s *Qualitative Habitat Evaluation Index* (Rankin, 2006) and in the OEPA’s Field Evaluation Manual for Ohio’s Primary Headwater Habitat Streams (OEPA, 2012).

2.2.1 OEPA QUALITATIVE HABITAT EVALUATION INDEX

The qualitative habitat evaluation index (QHEI) is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (*e.g.,* macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive quantitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

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

2.2.2 OEPA PRIMARY HEADWATER HABITAT EVALUATION INDEX

Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless, headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and landscape position (Fritz, et al. 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The headwater habitat evaluation index (HHEI) is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater Habitat (PHWH) streams. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a "defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 mi^2 (259 ha), *and* a maximum depth of water pools equal to or less than 15.75 inches (40 cm)" (OEPA, 2012).

Headwater streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assessments result in a score (0 to 100) that is converted to a specific PHWH stream class. Streams that are scored from 0 to 29.9 are typically grouped into "Class 1 PHWH Streams", 30 to 69.9 are "Class 2 PHWH Streams", and 70 to 100 are "Class 3 PHWH Streams". Technically, a stream can score relatively high, but actually belong in a lower class, and vice-versa. According to the OEPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a decision-making flow chart can be used to determine appropriate PHWH stream class using the HHEI protocol (OEPA, 2012). Evidence of anthropogenic alterations to the natural channel will result in a "Modified" qualifier for the stream.

Class 1 PHWH Streams: Class 1 PHWH Streams are those that have "normally dry channels with little or no aquatic life present" (OEPA, 2012). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.

Class 2 PHWH Streams: Class 2 PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (OEPA, 2012). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.

Class 3 PHWH Streams: Class 3 PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class 3 PHWH Streams is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).

2.3 THREATENED AND ENDANGERED SPECIES

AECOM conducted a rare, threatened, and endangered species review and general field habitat surveys within areas crossed by the Project survey area. This report will be used to assist AEP Ohio Transco's efforts to avoid impacts to threatened and endangered species potentially present in the survey area during construction activities. The first phase of the survey involved a review of online lists of federal and state species of concern. In addition to the review of available literature, AECOM submitted coordination letters to the USFWS and ODNR – Division of Soil and Water Resources (DSWR) requesting records of species of concern that were reported within close proximity to the Project and also soliciting comments on the Project. A response letter from USFWS was received on September 18th, 2017; and a response from ODNR has not yet been received to date. AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field survey on September 26th, 2017.

3.0 RESULTS

Within the Project survey area, AECOM delineated eight wetlands, one stream, and one pond within the Project survey area. The delineated features are discussed in detail in the following sections.

3.1 WETLAND DELINEATION

3.1.1 Preliminary Soils Evaluation

Soils in the delineated wetland were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Survey of Allen County, Ohio (NRCS 2016) and the NRCS Hydric Soils Lists of Ohio, three soil series are mapped within the Project survey area (NRCS 2017). Within these soil series, four soil map units are listed as hydric. Table 1 provides a detailed overview of all soil series and soil map units within the Project survey area. Soil map units located within the Project survey area are shown on Figure 2.

TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE EAST LIMA EXPANSION PROJECT SURVEY AREA

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Blount	Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	End moraines	Yes	Pewamo, end moraine 6%
	Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	End moraines	Yes	Pewamo, end moraine 6%
Glynwood	Gwe1B1	Glynwood silt loam, end moraine, 2 to 6 percent slopes	End moraines	Yes	Pewamo 6%
Pewamo	PmA	Pewamo silty clay loam, 0 to 1 percent slopes	Depressions	Yes	Pewamo 85%; Minster 6%

NOTES:
(1) Data sources include:
USDA, NRCS. 2017 Soil Survey Geographic (SSURGO) Database. Available online at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_053627
USDA, NRCS. December 2015. National Hydric Soils List by State. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/

3.1.2 National Wetland Inventory Map Review

National Wetland Inventory (NWI) wetlands are areas of potential wetland that have been identified from USFWS aerial photograph interpretation which have typically not been field verified. Forested and heavy scrub/shrub wetlands are often not shown on NWI maps as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. The USFWS website states that the NWI maps are not intended or designed for jurisdictional wetland identification or location. As a result, NWI maps do not show all the wetlands found in a particular area nor do they necessarily provide accurate wetland boundaries. NWI maps are useful for providing indications of potential wetland areas, which are often supported by soil mapping and hydrologic predictions, based upon topographical analysis using USGS topographic maps.

According to the NWI maps of the Cairo, Ohio quadrangle, the Project survey area contains four mapped NWI wetlands. Two of these features are located in the southern portion of the Project survey area. One feature is located to the east and one other feature is located in the northern portion of the Project survey area. These features are characterized as one palustrine aquatic bed, intermittently exposed wetland (PABGx), one palustrine emergent, temporarily flooded wetland (PEM1A), one palustrine emergent, seasonally flooded wetland (PEM1C), and one palustrine forested, temporarily flooded wetland (PFO1A).

3.1.3 Delineated Wetlands

During the field survey, AECOM identified eight wetlands, ranging in size from 0.05 to 0.48 acre, within the Project survey area. These eight wetlands are of five different wetland habitat types: four PEM wetlands, one PFO wetland, one PEM/PFO wetland, one PEM/PSS wetland, and one PFO/PSS. See Table 2 for a summary of the delineated wetlands within the Project survey area.

Additionally, AECOM commonly splits wetlands where there is an obvious break between Cowardin wetland classes. This split results in each wetland section being assessed independently; however, AECOM recognizes that split wetland sections are a component of a larger wetland complex.

The locations and approximate extent of the wetlands identified within the Project survey area are shown on Figure 3. Completed USACE and ORAM wetland delineation forms are provided in Appendices A and B, respectively. Representative color photographs taken of the wetlands are provided in Appendix D.

TABLE 2
DELINEATED WETLANDS WITHIN THE EAST LIMA STATION EXPANSION PROJECT SURVEY AREA

Wetland Name	Latitude	Longitude	Cowardin Wetland Type[a]	ORAM Score	ORAM Category	Acreage within Project Survey Area
Wetland 01	40.799581	-84.029760	PEM	17	Category 1	0.48
Wetland 02a	40.798671	-84.029545	PEM	21	Category 1	0.42
Wetland 02b	40.798841	-84.029689	PFO	21	Category1	0.48
Wetland 03	40.800381	-84.027913	PEM	16	Category 1	0.13
Wetland 04	40.799877	-84.027834	PEM/PSS	16.5	Category 1	0.20
Wetland 05	40.802367	-84.027877	PEM	17	Category 1	0.33
Wetland 06	40.803332	-84.029560	PFO/PSS	17.5	Category 1	0.05
Wetland 07	40.802090	-84.029859	PEM/PFO	16.5	Category 1	0.06
Total: 8 Wetlands						**2.1**

Cowardin Wetland Class[a]: PEM = palustrine emergent, PFO = palustrine forested, PSS = palustrine scrub-shrub

3.1.4 Delineated Wetlands ORAM V5.0 Results

Within the Project survey area, the eight wetlands were identified as Category 1. Wetland 03 had the lowest ORAM score, 16, while Wetlands 02a and 02b had the highest score, 21. A breakdown of ORAM scores can be found in Table 2. Completed ORAM forms are provided in Appendix B.

Category 1 Wetlands

The Category 1 wetlands delineated within the Project survey area include: four PEM wetlands (Wetlands 01, 02a, 03, and 05), one PFO (Wetland 02b), one PEM/PFO (Wetland 07), one PEM/PSS (Wetland 04), and one PFO/PSS wetland (Wetland 06). The Category 1 wetlands generally exhibited very narrow buffers, moderately high to high intensive surrounding land use (e.g., row cropping, urban/highway), nearly absent to extensive percentage of invasive species, and had habitat and hydrology generally recovering or recently impacted from previous manipulation due to filling/grading, installation of ditches and tile, clearcutting, sedimentation, mowing, and farming.

Category 2 Wetlands

No Category 2 wetlands were identified during the surveys.

Category 3 Wetlands

No Category 3 wetlands were identified during the surveys.

3.2 STREAM CROSSINGS

AECOM identified one intermittent stream, totaling 484 linear feet, within the Project survey area. This stream (Stream 1) was assessed using the HHEI methodology (drainage area less than 1 mi^2). The stream was identified as "Modified Class 1" stream and received an HHEI score of 29. The substrates were dominated by silt and leaf pack/wood debris. The stream showed evidence of stream channel modification (e.g., channelization, culverting, etc.) that resulted in the stream receiving a Modified Class 1 designation. The maximum pool depth was two inches, and the average bankfull width was three feet. The stream's location within the Project survey area is shown on Figure 3. A completed HHEI form is provided in Appendix C.

AECOM has preliminarily determined that the assessed stream within the Project survey area appears to be jurisdictional (i.e., waters of the U.S.), as it appears to be a tributary that flows into or combines with other streams (waters of the U.S).

3.3 PONDS

One pond, totaling approximately 0.45 acre, was observed within the Project survey area. This pond was observed to be manmade for recreational or livestock purposes.

3.4 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field survey on September 26th, 2017. Portions of the Project survey area were identified as existing transmission station (urban area), stream/wetland areas, successional woodland, old field, scrub-shrub and agricultural land. Habitat descriptions, applicable to the Project, and details on the expected impacts of construction are provided below. Vegetated land cover can be seen visually from aerial photography provided on Figure 4.

TABLE 3

VEGETATIVE COMMUNITIES WITHIN THE PROJECT AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage within the Project Survey Area
Agricultural Land	Agricultural land consisting of soybean fields was present in the Project survey area. The agricultural land contains row crops and is not used for pasture or hay fields.	19.19	36%
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey area of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the study area and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	8.17	15%
Successional Woodlands	Successional mixed hardwood woodlands are present along the Project survey area. Woody species dominating these areas included American Beech (Fagus grandfolia), red oak (Quercus rubra), white oak (Quercus alba), sugar maple (Acer saccharum), red maple (Acer rubrum), box elder (Acer negundo),, shagbark hickory (Carya ovata), and black cherry (Prunus serotina). The dominant shrub-layer species included spicebush (Lindera benzoin), poison ivy (Toxicodendron radicans), honeysuckle (Lonicera japonica), and blackberry (Rubus occidentalis).	1.79	3%
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the removed canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with a few woody species, to a community dominated by forest herbs and woody species.	7.46	14%
Stream/Wetlands	Streams and wetlands were observed within the survey area for the Project.	4.80	9%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	12.13	23%
Totals:		**53.54**	**100%**

3.5 THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

AECOM conducted a rare, threatened, and endangered species review for areas crossed by the Project survey area. The first phase of the evaluation involved a review of online lists of federal and state species of concern. Coordination letters to the USFWS, ODNR – DOW, and ODNR – DSWR soliciting comments on the project were submitted. A response letter from USFWS was received on September 18th, 2017; and a response from ODNR was received on December 1, 2017. Correspondence letters from the USFWS and ODNR are included in Appendix E. Table 4 provides a list of federal and state listed species identified in the Project area during the rare, threatened, and endangered species review by USFWS and ODNR.

TABLE 4
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Mammals						
Indiana bat (Myotis sodalis)	Endangered	Endangered	Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.	Yes	Some potentially suitable habitat is present within the Project survey area (woodlands).	USFWS commented that due to the project type, size, and location, plus the project proposal for seasonal cutting tree cutting between October 1 and March 31, there should be no expected impacts to the Indiana bat. ODNR requested that suitable Indiana bat habitat should be conserved or cut between October 1 and March 31.

TABLE 4
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Northern long-eared bat (Myotis septentrionalis)	Threatened	Threatened	Winter hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) have been found to be utilized by northern long-eared bats. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey. Proximity to water is critical, because insect prey density is greater over or near open water. Northern long-eared bats have also been found, albeit rarely, roosting in structures like barns and sheds.	Yes	Some potentially suitable habitat is present within the Project survey area (woodlands).	USFWS commented that due to the project type, size, and location, plus the project proposal for seasonal cutting tree cutting between October 1 and March 31, there should be no expected impacts to the northern long-eared bat.

TABLE 4
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Mussels						
Clubshell (*Pleurobema clava*)	Endangered	Endangered	This mussel prefers clean, loose sand and gravel in medium to small rivers and streams. This mussel will bury itself in the bottom substrate to depths of up to four inches.	No	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated.	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact this species.
Pondhorn (*Uniomerus tetralasmus*)	Threatened	None	This mussel prefers ponds, small creeks, and the headwaters of larger streams in mud and sand. This mussel can withstand periods of desiccation and is often present in areas where few other mussels are found.	Yes	One pond is present within the Project area. No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated.	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact this species.
Northern Riffleshell (*Epioblasma torulosa rangiana*)	Endangered	Endangered	This mussel prefers stable, undisturbed habitat and a sufficient population of host fish to complete the mussel's larval development. Adult mussels require gravel and sand habitat.	No	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated.	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact this species.
Fish						
Greater redhorse (*Moxostoma valenciennesi*)	Threatened	Species of Concern	Found in medium to large rivers in the Lake Erie drainage system. Only found in limited portions of the Sandusky, Maumee, and Grand River systems. Greater redhorse are typically found in pools with clean sand or gravel substrate, but are intolerant of pollution and turbid water.	No	No in-water work is planned as part of the Project. No impacts to fish species and their habitat are anticipated.	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact this species.

TABLE 4
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Birds						
Upland sandpiper (*Bartramia longicauda*)	Endangered	None	Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP).	Yes	Some potentially suitable habitat is present within the Project area (old field; emergent wetland habitats).	ODNR requested if grassland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

ODNR-DOW Coordination –

Coordination with the ODNR-DOW was initiated during the planning stages of the Project to obtain records located in the vicinity of the project. Response was received on December 1, 2017.

The ODNR-DOW noted that the Project lies within the range of the federally endangered Indiana bat. ODNR-DOW recommends that if tree clearing cannot be avoided, tree removal occur between October 1 and March 31 is appropriate to avoid adverse effects to Indiana bats during the pup-rearing months.

ODNR noted that the Project is within the range of three state listed mussel species (clubshell, northern riffleshell, and pondhorn). Additionally, the state threatened fish, greater redhorse, was identified in the range of the Project. ODNR indicated that due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact these species.

Based on correspondence with the ODNR, the upland sandpiper was listed as being potential species found within Allen County, Ohio; however, based on the ODNR's state listed wildlife species, the upland sandpiper has never been recorded in the county. ODNR has also indicated that the potential habitat ground cover types that are smaller than one acre in size and commercial or residential landscaped areas do not constitute adequate nesting habitat for this species. Because the Project will not impact this type of habitat it is not likely to impact the species.

USFWS Coordination –

In an e-mail dated September 18, 2017, the USFWS provided comments on the Project with regard to federally listed threatened and endangered species that may occur within the project vicinity. The USFWS indicated that there are no Federal wildlife refuges, wilderness areas, or critical habitat within the vicinity of the Project.

The USFWS noted that the Project lies within the range of the federally endangered Indiana bat (*Myotis sodalis*), and the federally threatened northern long-eared bat (*Myotis septentrionalis*). USFWS recommends that should the proposed site contain trees ≥3 inches dbh, that trees be saved wherever possible. If tree clearing cannot be avoided, USFWS recommends that tree removal occur between October 1st and March 31st to avoid adverse effects to Indiana bats and northern long-eared bats during the brood-rearing months. Due to the project type, size, and location, the USFWS does not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species.

4.0 SUMMARY

The ecological survey of the Project survey area identified eight wetlands, one intermittent stream and one pond. Stream 01 was assessed using the HHEI methodology (drainage area less than 1 mi^2) and was identified as Modified Class 1 stream.

The eight wetlands identified within the project survey area are of five different habitat types: four PEM wetlands, one PFO wetland, one PEM/PFO wetland, one PEM/PSS wetland, and one PFO/PSS wetland. All eight wetlands were identified as Category 1 wetlands.

A response letter from USFWS was received on September 18th, 2017; and a response from ODNR on December 1. In addition to the comments received from USFWS and ODNR, AECOM's analysis of potential habitat for rare, threatened, or endangered species is based on the field evaluation on September 26, 2017,.

Based on correspondence with USFWS and ODNR, impacts to bats can be avoided by removing any necessary trees (i.e., roosting habitat) between October 1 and March 31. Impacts to other federal or state listed species are not expected to occur due to the type of project and no planned impacts to perennial streams.

The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey boundary provided in Figure 3: Wetland Delineation and Stream Assessment Map. Areas that fall outside of the Project survey boundary, including any portion of work pads or access roads, were not evaluated in the field and are not included in the reporting of this survey.

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

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

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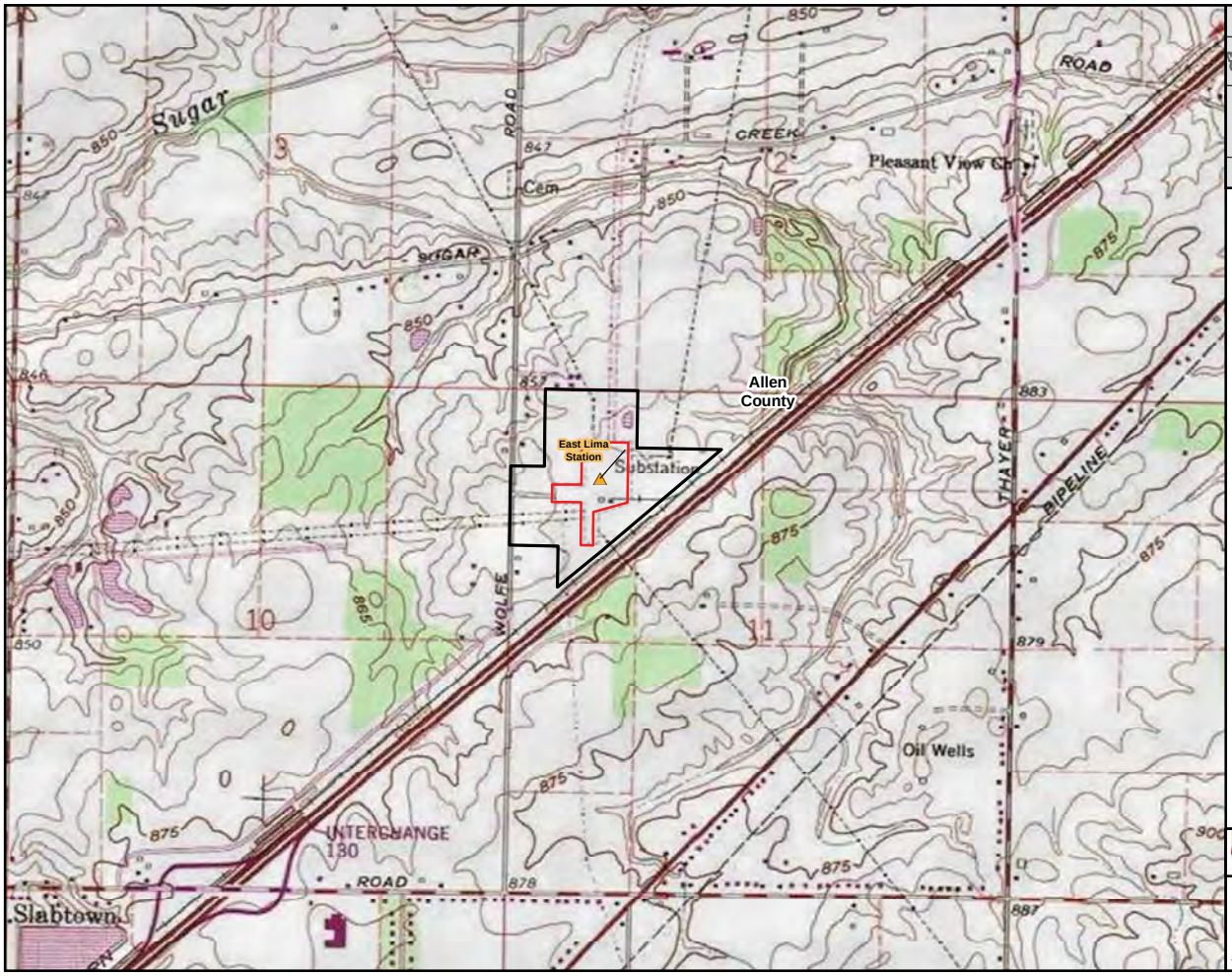

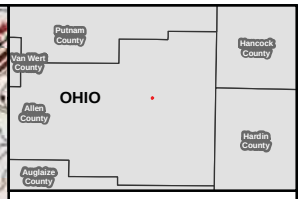

LEGEND:

- Existing Station
- Existing East Lima Station Fence
- Project Survey Area

N

0 1,000 2,000

Feet

BASE MAP SOURCE:
ArcGIS Online, USA Topo Map
Cairo, OH 7.5 Topographic Quadrangle

OHIO TRANSMISSION COMPANY

East Lima Station Expansion Project

FIGURE 1
OVERVIEW MAP

JOB NO. 60555098

AECOM

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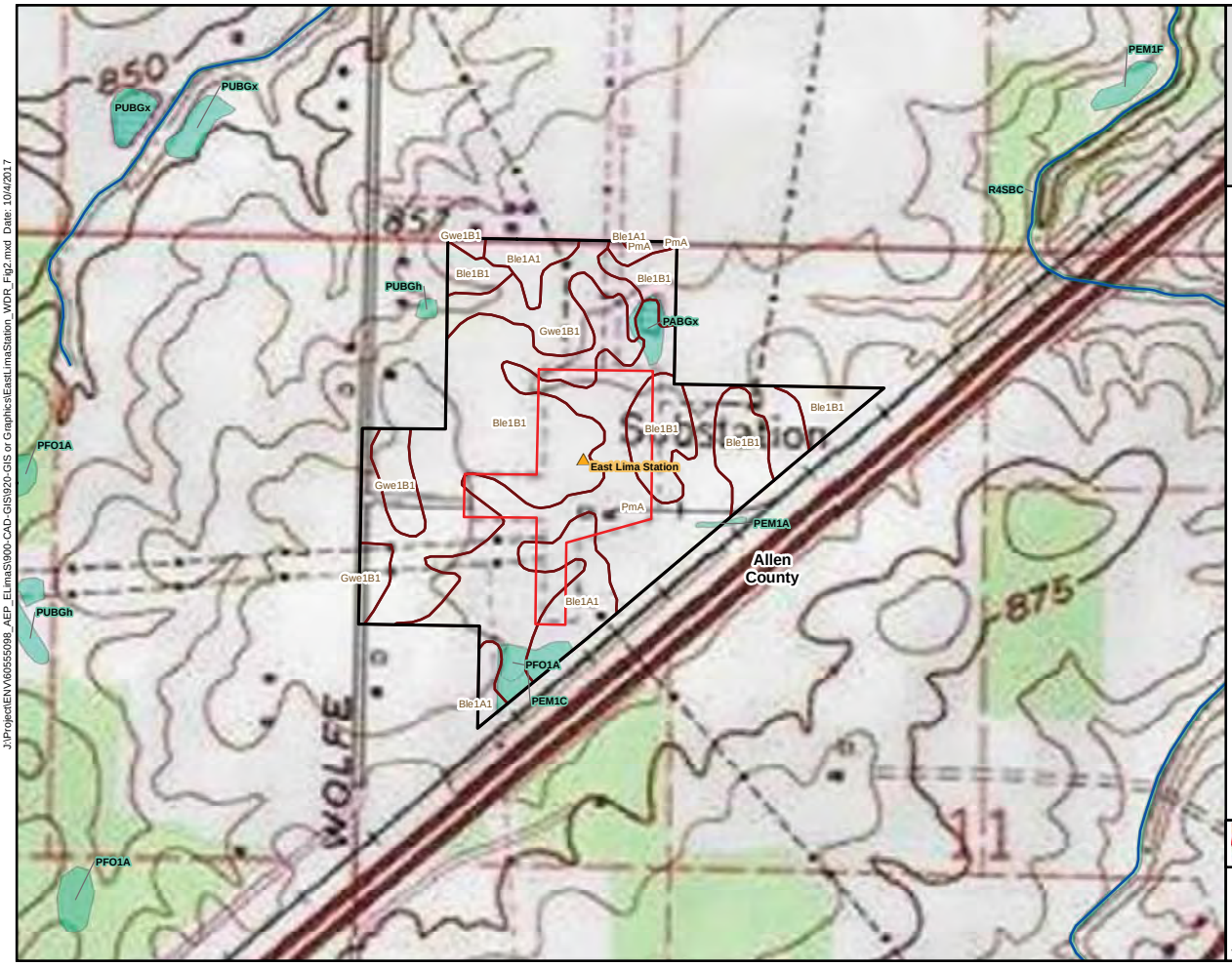

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Allen County OHIO

LEGEND:

- Existing Station
- Existing East Lima Station Fence
- Project Survey Area
- NHD Stream
- NWI Wetland
- Soil Map Unit

Soil Map Unit Symbol

- Ble1A1, Blount silt loam, end moraine, 0 to 2 percent slopes
- Ble1B1, Blount silt loam, end moraine, 2 to 4 percent slopes
- Gwe1B1, Glynwood silt loam, end moraine, 2 to 6 percent slopes
- PmA, Pewamo silty clay loam, 0 to 1 percent slopes

N

0 400 800

Feet

BASE MAP SOURCE:
ArcGIS Online, USA Topo Map
Cairo, OH 7.5 Topographic Quadrangle

AEP OHIO TRANSMISSION COMPANY

East Lima Station Expansion Project

FIGURE 2
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

JOB NO. 60555098

AECOM

OHIO

LEGEND:

- Existing Station
- Existing East Lima Station Fence
- Project Survey Area
- Delineated Intermittent Stream
- Delineated Pond
- Delineated Wetland
- Approximate Wetland Boundary

N

0 150 300 450

Feet

BASE MAP SOURCE:
© 2017 DigitalGlobe ©CNES (2017) Distribution Airbus

OHIO TRANSMISSION COMPANY

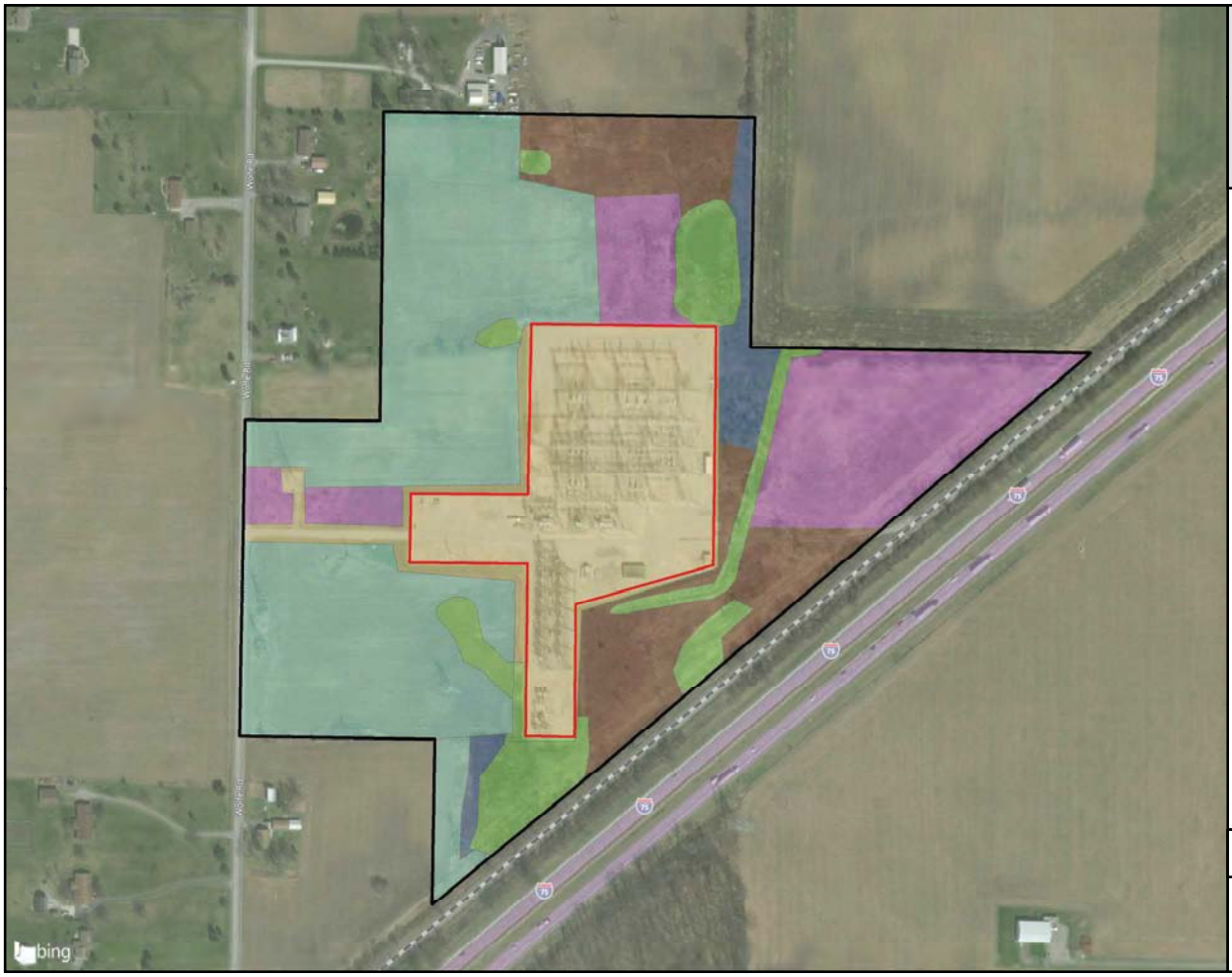
East Lima Station Expansion Project

FIGURE 3
WETLAND DELINEATION AND STREAM ASSESSMENT MAP

JOB NO. 60555098

AECOM

J:\Project\ENV\60555098_AEP_ELimaSt\900-CAD-GIS\920-GIS or Graphics\EastLimaStation_WDR_Fig3.mxd Date: 10/4/2017



OHIO TRANSMISSION COMPANY

East Lima Station Expansion Project

FIGURE 4
VEGETATIVE COMMUNITIES ASSESSMENT MAP

JOB NO. 60555098

AECOM

J:\Project\ENV\60555098_AEP_ELimaSt\900-CAD-GIS\920-GIS or Graphics\East\LimaStation_WDR_Fig4.mxd Date: 10/4/2017

APPENDIX A

U.S. ARMY CORPS OF ENGINEERS WETLAND FORMS

WETLAND 01

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion City/County: Allen County Sampling Date: 26-Sep-17

Applicant/Owner: AEP State: OH Sampling Point: **w-jbl-092617-01**

Investigator(s): J. Lubbers, A. Hanner Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave

Slope: 1.0% 0.6 ° Lat.: 40.8000852 Long.: -84.0301922 Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
next to soybean field

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Persicaria pensylvanica	50	☑ 48.1%	FACW
2. Cyperus esculentus	10	☐ 9.6%	FACW
3. Echinochloa crus-galli	10	☐ 9.6%	FACW
4. Juncus effusus	8	☐ 7.7%	OBL
5. Rumex crispus	4	☐ 3.8%	FAC
6. Ambrosia artemisiifolia	10	☐ 9.6%	FACU
7. Typha angustifolia	12	☑ 11.5%	OBL
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	104	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	70	x 2 =	140
FAC species	4	x 3 =	12
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	104 (A)		212 (B)

Prevalence Index = B/A = 2.038

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

SOIL

Sampling Point: **w-ibl-092617-01**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-10	10YR	4/2	95	10YR	4/6	5	C		Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): 13

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **w-jbl-092617-02a,b**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): concave

Slope: 1.0% 0.6 ° | Lat.: 40.7989315 | Long.: -84.0295869 | Datum: NAD 83

Soil Map Unit Name: Blount silt loam (Ble1A1) | NWI classification: PFO1A,PEM1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
wetland 2a is pem, wetland 2b is pfo

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Populus deltoides	35	☑ 63.6%	FAC
2. Fraxinus pennsylvanica	15	☑ 27.3%	FACW
3. Quercus palustris	5	☐ 9.1%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	55	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Fraxinus pennsylvanica	45	☑ 75.0%	FACW
2. Quercus palustris	15	☑ 25.0%	FACW
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	60	= Total Cover	
Herb Stratum (Plot size:)			
1. Echinochloa crus-galli	40	☑ 66.7%	FACW
2. Juncus effusus	15	☑ 25.0%	OBL
3. Carex frankii	5	☐ 8.3%	OBL
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	60	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	120	x 2 =	240
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	175 (A)		365 (B)

Prevalence Index = B/A = 2.086

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

SOIL

Sampling Point: **w-ibl-092617-02a.b**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-18	10YR	4/1	95	10YR	5/6	5	C	M	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3] :

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND 03

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion City/County: Allen County Sampling Date: 26-Sep-17

Applicant/Owner: AEP State: OH Sampling Point: **w-jbl-092617-03**

Investigator(s): J. Lubbers, A. Hanner Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave

Slope: 1.0% 0.6 ° Lat.: 40.8001887 Long.: -84.0281812 Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Typha angustifolia	35	☑ 35.0%	OBL
2. Echinochloa crus-galli	35	☑ 35.0%	FACW
3. Juncus effusus	10	☐ 10.0%	OBL
4. Juncus torreyi	10	☐ 10.0%	FACW
5. Cyperus esculentus	10	☐ 10.0%	FACW
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		155 (B)

Prevalence Index = B/A = 1.550

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

SOIL

Sampling Point: **w-ibl-092617-03**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	4/1	75	10YR	5/6	25	D	M	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ◉	No ○	Depth (inches):	12
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	6

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND 04

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion City/County: Allen County Sampling Date: 26-Sep-17

Applicant/Owner: AEP State: OH Sampling Point: **w-jbl-092617-04**

Investigator(s): J. Lubbers, A. Hanner Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none

Slope: 1.0% 0.6 ° Lat.: 40.8001112 Long.: -84.0276756 Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
wetland 4 mostly PEM, 25% PSS

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Fraxinus pennsylvanica	15	☑ 50.0%	FACW
2. Acer rubrum	10	☑ 33.3%	FAC
3. Ulmus americana	5	☐ 16.7%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	30	= Total Cover	
Herb Stratum (Plot size:)			
1. Juncus effusus	55	☑ 57.9%	OBL
2. Echinochloa crus-galli	20	☑ 21.1%	FACW
3. Juncus torreyi	10	☐ 10.5%	FACW
4. Acer rubrum	5	☐ 5.3%	FAC
5. Fraxinus pennsylvanica	5	☐ 5.3%	FACW
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	95	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	55	x 2 =	110
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		210 (B)

Prevalence Index = B/A = 1.680

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

WETLAND 04

SOIL

Sampling Point: **w-ibl-092617-04**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	4/1	90	10YR	5/8	10	C	M	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3] :

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND 05

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion City/County: Allen County Sampling Date: 26-Sep-17

Applicant/Owner: AEP State: OH Sampling Point: **w-jbl-092617-05**

Investigator(s): J. Lubbers, A. Hanner Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave

Slope: 1.0% 0.6 ° Lat.: 40.8023657 Long.: -84.0279665 Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) NWI classification: PABGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1. Salix nigra	5	☑	50.0%	OBL
2. Populus deltoides	5	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	10	= Total Cover		
Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Typha angustifolia	95	☑	100.0%	OBL
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	95	= Total Cover		
Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		115 (B)

Prevalence Index = B/A = 1.095

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

WETLAND 05

SOIL

Sampling Point: **w-ibl-092617-05**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	5/1	95	10YR	6/6	5	C	M	Silty Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 3

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND 06

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: AEP East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **w-jbl-092617-06**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 4S R 7E

Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): concave

Slope: 1.0% 0.6 ° | Lat.: 40.080338 | Long.: -84.029592 | Datum: NAD 83

Soil Map Unit Name: Blount silt loam (Ble1A1) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus deltoides	20	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Populus deltoides	15	☑ 42.9%	FAC
2. Cornus drummondii	15	☑ 42.9%	FAC
3. Acer saccharinum	5	☐ 14.3%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	35	= Total Cover	
Herb Stratum (Plot size:)			
1. Juncus effusus	15	☑ 41.7%	OBL
2. Typha angustifolia	15	☑ 41.7%	OBL
3. Fraxinus pennsylvanica	2	☐ 5.6%	FACW
4. Acer rubrum	2	☐ 5.6%	FAC
5. Echinochloa crus-galli	2	☐ 5.6%	FACW
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	36	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	9	x 2 =	18
FAC species	52	x 3 =	156
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	91 (A)		204 (B)

Prevalence Index = B/A = 2.242

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

SOIL

Sampling Point: **w-ibl-092617-06**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	4/1	95	10YR	5/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND 07

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: AEP East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **W-jbl-092617-07**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 4S R 7E

Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): concave

Slope: 1.0% 0.6 ° | Lat.: 40.8021483 | Long.: -84.0299026 | Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Typha angustifolia	45	☑ 50.0%	OBL
2. Scirpus cyperinus	30	☑ 33.3%	OBL
3. Juncus torreyi	10	☐ 11.1%	FACW
4. Echinochloa crus-galli	5	☐ 5.6%	FACW
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	90	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		105 (B)

Prevalence Index = B/A = 1.167

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ◉ No ○**

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

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

WETLAND 07

SOIL

Sampling Point: **-ibl-092617-07**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	4/1	90	10YR	6/8	10	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3] :

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

UPLAND 01

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **upl-jbl-092617-01**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 1.0% 0.6 ° | Lat.: 40.7998826 | Long.: -84.0299357 | Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes ○ No ◉**
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
soybean field

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0		= Total Cover	
Herb Stratum (Plot size:)				
1. Glycine max	85	☑	85.0%	UPL
2. Ambrosia artemisiifolia	10	☐	10.0%	FACU
3. Dipsacus fullonum	5	☐	5.0%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	100		= Total Cover	
Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	85	x 5 =	425
Column Totals:	100 (A)		485 (B)

Prevalence Index = B/A = 4.850

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ○ No ◉**

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

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

UPLAND 01

SOIL

Sampling Point: **I-ibl-092617-01**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR	4/3	100						Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

UPLAND 02

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **upl-jbl-092617-02**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 1.0% 0.6 ° | Lat.: 40.7991488 | Long.: -84.0289219 | Datum: NAD 83

Soil Map Unit Name: Blount silt loam (Ble1A1) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes** ○ **No** ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Dipsacus fullonum	100	☑ 100.0%	FACU
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes** ○ **No** ◉

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

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

UPLAND 02

SOIL

Sampling Point: **I-ibl-092617-02**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	3/2	100					Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

UPLAND 03

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **upl-jbl-092617-03**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 1.0% 0.6 ° | Lat.: 40.8003673 | Long.: -84.0277892 | Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes ○ No ◉**
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Solidago altissima	70	☑ 70.0%	FACU
2. Dipsacus fullonum	15	☐ 15.0%	FACU
3. Poa pratensis	10	☐ 10.0%	FAC
4. Toxicodendron radicans	5	☐ 5.0%	FAC
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	100 (A)		385 (B)

Prevalence Index = B/A = 3.850

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes ○ No ◉**

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

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

UPLAND 03

SOIL

Sampling Point: **I-ibl-092617-03**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	5/2	95	10YR	5/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

UPLAND 04

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **upl-jbl-092617-04**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 0.0% 0.0 ° | Lat.: 40.8000357 | Long.: -84.0274950 | Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes** ○ **No** ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Dipsacus fullonum	75	☑ 75.0%	FACU
2. Taraxacum officinale	25	☑ 25.0%	FACU
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes** ○ **No** ◉

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

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

UPLAND 04

SOIL

Sampling Point: **I-ibl-092617-04**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-18	10YR	5/2	98	10YR	5/6	2	C		Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

UPLAND 05

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Aep East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **upl-jbl-092617-05**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 3S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 2.0% 1.1 ° | Lat.: 40.8023575 | Long.: -84.0283103 | Datum: NAD 83

Soil Map Unit Name: Blount silt loam (Ble1B1) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes** ○ **No** ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Setaria faberi	45	☑ 45.0%	FACU
2. Solidago altissima	30	☑ 30.0%	FACU
3. Cirsium arvense	10	☐ 10.0%	FACU
4. Apocynum cannabinum	10	☐ 10.0%	FAC
5. Poa pratensis	5	☐ 5.0%	FAC
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	100 (A)		385 (B)

Prevalence Index = B/A = 3.850

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes** ○ **No** ◉

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

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

UPLAND 05

SOIL

Sampling Point: **I-ibl-092617-05**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-18	10YR	4/3	99	10YR	5/6	1	C	M	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3] :

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

UPLAND 06

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: AEP East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **Upl-jbl-092617-06**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 4S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 1.0% 0.6 ° | Lat.: 40.8031657 | Long.: -84.0295161 | Datum: NAD 83

Soil Map Unit Name: Glynwood silt loam (Gwe1B1) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes** ○ **No** ◉
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Dipsacus fullonum	45	☑ 47.4%	FACU
2. Glycine max	45	☑ 47.4%	UPL
3. Poa pratensis	5	☐ 5.3%	FAC
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	95	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	45	x 4 =	180
UPL species	45	x 5 =	225
Column Totals:	95 (A)		420 (B)

Prevalence Index = B/A = 4.421

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes** ○ **No** ◉

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

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

UPLAND 06

SOIL

Sampling Point: **I-ibl-092617-06**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR	4/2	98	10YR	5/6	2	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

UPLAND 07

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: AEP East Lima Station Expansion | City/County: Allen County | Sampling Date: 26-Sep-17

Applicant/Owner: AEP | State: OH | Sampling Point: **Upl-jbl-092617-07**

Investigator(s): J. Lubbers, A. Hanner | Section, Township, Range: S 11 T 4S R 7E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): none

Slope: 1.0% 0.6 ° | Lat.: 40.802195 | Long.: -84.029939 | Datum: NAD 83

Soil Map Unit Name: Pewamo silty clay loam (PmA) | NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** **Yes** ○ **No** ◉
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Dipsacus fullonum	40	☑ 42.1%	FACU
2. Solidago altissima	40	☑ 42.1%	FACU
3. Taraxacum officinale	10	☐ 10.5%	FACU
4. Symphyotrichum pilosum	5	☐ 5.3%	FACU
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	95	= Total Cover	
Woody Vine Stratu (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	95 (A)		380 (B)

Prevalence Index = B/A = 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? **Yes** ○ **No** ◉

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

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

UPLAND 07

SOIL

Sampling Point: **I-ibl-092617-07**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-18	10YR	4/2	98	10YR	5/6	2	C	M	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3] :

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required

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

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

APPENDIX B

OEPA WETLAND ORAM FORMS

la 01

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

2 2 **1 la a w-jbl-092617-01**

max 6 pts | subtotal

l la a a

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

0.48 acres

2 4 **2 la b a la**

max 14 pts. | subtotal

2a al la a a b w l l a a bl

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

2b la l bl a a a

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

6 5 **10 5** **3 l**

max 30 pts. | subtotal

3a a all a a l

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

3 a wa l

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

3 a a al l

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

3b all a a l

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

3 a a a a bl

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

bl a a a

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

5 5 **16** **4 ab a l a a l**

max 20 pts. | subtotal

4a b a ba bl a a a

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

4b ab a l l l a a

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

4 ab a al a bl a a a

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

Check all disturbances observed

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

16

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

la 01

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

w-jbl-092617-01

	16
	subtotal this page
0	**16**
max 10 pts.	subtotal

5 al la

Check all that apply and score as indicated.

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

1	**17**
max 20pts.	subtotal

6 la , , a

6a la a

Score all present using 0 to 3 scale.

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other_____

6b al la w

Select only one.

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

6 a a la

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

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

6 a

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

a a a al

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

la a a la al

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

a al

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

a 1

17

a 100

la 02ab

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

2 2 **1 la a** **w-jbl-092617-02a,b**

max 6 pts subtotal **l la a a**

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

0.90 acres

2 4 **2 la b a la**

max 14 pts. subtotal **2a al la a a b w l l a a bl**

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

2b la l bl a a a

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

6 0 10 0 **3 l**

max 30 pts. subtotal

3a a all a a l

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

3 a wa l

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

3 a a al l

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

3b all a a l

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

3 a a a a bl

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

bl a a a all ba b

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

7 17 **4 ab a l a a l**

max 20 pts. subtotal **4a b a ba bl a a a**

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

4b ab a l l l a a

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

4 ab a al a bl a a a

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

Check all disturbances observed

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

17

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

la 02ab

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

w-jbl-092617-02a,b

	17
	subtotal this page
0	**17**
max 10 pts.	subtotal

5 al la

Check all that apply and score as indicated.

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

4	**21**
max 20pts.	subtotal

6 la , , a

6a la a

Score all present using 0 to 3 scale.

	Aquatic bed
1	Emergent
	Shrub
1	Forest
	Mudflats
	Open water
	Other_____

6b al la w

Select only one.

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

6 a a la

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

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

6 a

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

a a a al

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

la a a la al

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

a al

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

a 1

21

a 100

Wetland 03

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

Field Id: w-jbl-092617-03

Metric 1. Wetland Area (size).

1 (max 6 pts) | 1 (subtotal)

Select one size class and assign score.

0.13 acres

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

Metric 2. Upland buffers and surrounding land use.

2 (max 14 pts.) | 3 (subtotal)

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

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

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

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

Metric 3. Hydrology.

8.0 (max 30 pts.) | 11.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

4 (max 20 pts.) | 15 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

15 (subtotal this page) ORAM v. 5.0 Field Form Quantitative Rating

Wetland 03

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

Field Id:
w-jbl-092617-03

15
subtotal this page

0 | 15 | **Metric 5. Special Wetlands.**

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

1 | 16 | **Metric 6. Plant communities, interspersion, microtopography.**

max 20pts. | subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] 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
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Category 1

16 GRAND TOTAL(max 100 pts)

la 04

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

1	1	**1 la a**	**w-jbl-092617-04**
max 6 pts	subtotal	**l la a a**	

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

0.20 acres

2	3	**2 la b a la**
max 14 pts.	subtotal	

2a al la a a b w l l a a bl

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

2b la l bl a a a

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

6 0	9 0	**3 l**
max 30 pts.	subtotal	

3a a all a a l

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

3 a wa l

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

3 a a al l

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

3b all a a l

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

3 a a a a bl

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

bl a a a all ba b

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

5 5	14 5	**4 ab a l a a l**
max 20 pts.	subtotal	

4a b a ba bl a a a

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

4b ab a l l l a a

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

4 ab a al a bl a a a

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

Check all disturbances observed

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

14 5	
subtotal this page	ORAM v. 5.0 Field Form Quantitative Rating

la 04

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

w-jbl-092617-04

	14 5

subtotal this page

0	**14 5**

max 10 pts. subtotal

5 al la

Check all that apply and score as indicated.

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

2	**16 5**

max 20pts. subtotal

6 la , , a

6a la a

Score all present using 0 to 3 scale.

	Aquatic bed
1	Emergent
1	Shrub
	Forest
	Mudflats
	Open water
	Other_____

6b al la w

Select only one.

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

6 a a la

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

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

6 a

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

a a a al

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

la a a la al

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

a al

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

a 1

16 5

a 100

la 05

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

2 2 **1 la a w-jbl-092617-05**

max 6 pts subtotal **l la a a**

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

0.33 acres

2 4 **2 la b a la**

max 14 pts. subtotal **2a al la a a b w l l a a bl**

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

2b la l bl a a a

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

11 0 15 0 **3 l**

max 30 pts. subtotal

3a a all a a l

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

3 a wa l

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

3 a a al l

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

3b all a a l

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

3 a a a a bl

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

bl a a a

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

5 20 **4 ab a l a a l**

max 20 pts. subtotal **4a b a ba bl a a a**

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

4b ab a l l l a a

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

4 ab a al a bl a a a

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

Check all disturbances observed

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

20

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

la 05

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

w-jbl-092617-05

	20 subtotal this page
0 max 10 pts.	**20** subtotal

5 al la

Check all that apply and score as indicated.

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

-3	**17**
max 20pts.	subtotal

6 la , , a

6a la a

Score all present using 0 to 3 scale.

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other_____

6b al la w

Select only one.

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

6 a a la

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

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

6 a

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

a a a al

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

la a a la al

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

a al

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

a 1

17 **a 100**

la 06

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

0 **0** **1 la a w-jbl-092617-06**

max 6 pts subtotal **l la a a**

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

0.05 acres

2 **2** **2 la b a la**

max 14 pts. subtotal **2a al la a a b w l l a a bl**

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

2b la l bl a a a

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

7 0 **9 0** **3 l**

max 30 pts. subtotal

3a a all a a l

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

3 a wa l

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

3 a a al l

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

3b all a a l

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

3 a a a a bl

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

bl a a a

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

6 5 **15 5** **4 ab a l a a l**

max 20 pts. subtotal **4a b a ba bl a a a**

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

4b ab a l l l a a

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

4 ab a al a bl a a a

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

Check all disturbances observed

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

15 5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

la 06

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

w-jbl-092617-06

	15 5	subtotal this page
0	**15 5**	**5 al la**
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-unrestricted hydrology (10)
	Lake Erie coastal/tributary wetland-restricted hydrology (5)
	Lake Plain Sand Prairies (Oak Openings) (10)
	Relict Wet Praires (10)
	Known occurrence state/federal threatened or endangered species (10)
	Significant migratory songbird/water fowl habitat or usage (10)
	Category 1 Wetland. See Question 5 Qualitative Rating (-10)

2	**17 5**	**6 la , , a**
max 20pts.	subtotal	

6a la a

Score all present using 0 to 3 scale.

	Aquatic bed
	Emergent
1	Shrub
1	Forest
	Mudflats
	Open water
	Other_____

6b al la w

Select only one.

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

6 a a la

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

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

6 a

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

a a a al

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

la a a la al

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

a al

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

a 1

17 5	**a 100**

la 07

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

0 **0** **1 la a w-jbl-092617-07**

max 6 pts subtotal **l la a a**

0.06 acres

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

2 **2** **2 la b a la**

max 14 pts. subtotal **2a al la a a b w l l a a bl**

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

2b la l bl a a a

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

7 0 **9 0** **3 l**

max 30 pts. subtotal

3a a all a a l

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

3 a wa l

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

3 a a al l

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

3b all a a l

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

3 a a a a bl

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

bl a a a

all ba b			
[x]	ditch	[ ]	point source (nonstormwater)
[x]	tile	[x]	filling/grading
[ ]	dike	[ ]	road bed/RR track
[ ]	weir	[ ]	dredging
[ ]	stormwater input	[ ]	Other:

6 5 **15 5** **4 ab a l a a l**

max 20 pts. subtotal

4a b a ba bl a a a

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

4b ab a l l l a a

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

4 ab a al a bl a a a

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

Check all disturbances observed

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

15 5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

la 07

Site: AEP East Lima Station Expansion	Rater(s): J. Lubbers; A. Hanner	Date: 9/26/2017

l

w-jbl-092617-07

	15 5	subtotal this page
0	**15 5**	**5 al la**
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-unrestricted hydrology (10)
	Lake Erie coastal/tributary wetland-restricted hydrology (5)
	Lake Plain Sand Prairies (Oak Openings) (10)
	Relict Wet Praires (10)
	Known occurrence state/federal threatened or endangered species (10)
	Significant migratory songbird/water fowl habitat or usage (10)
	Category 1 Wetland. See Question 5 Qualitative Rating (-10)

1	**16 5**	**6 la , , a**
max 20pts.	subtotal	

6a la a

Score all present using 0 to 3 scale.

	Aquatic bed
	Emergent
1	Shrub
1	Forest
	Mudflats
	Open water
	Other_____

6b al la w

Select only one.

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

6 a a la

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

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

6 a

Score all present using 0 to 3 scale.

0	Vegetated hummucks/tussucks
0	Coarse woody debris >15cm (6in)
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0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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a a a al

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

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a al

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

a 1

16 5 **a 100**

APPENDIX C

OEPA HHEI STREAM FORMS

Stream 01

Modified Class I

OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 29

SITE NAME/LOCATION: AEP East Lima Station Expansion

SITE NUMBER: | RIVER BASIN: Auglaize | DRAINAGE AREA (mi²): 0.08

LENGTH OF STREAM REACH (ft): 200 | LAT.: 40.80183 | LONG.: -84.02721 | RIVER CODE: | RIVER MILE:

DATE: 09/26/17 | SCORER: JBL, AEH | COMMENTS: intermittent hh-jbl-092617-01

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

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

1. SUBSTRATE (Estimate percent of every type of substrate 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
☐☐	BLDR SLABS [16 pts]	0%	☑☑	SILT [3 pt]	70%
☐☐	BOULDER (>256 mm) [16 pts]	0%	☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	20%
☐☐	BEDROCK [16 pt]	0%	☐☐	FINE DETRITUS [3 pts]	0%
☐☐	COBBLE (65-256 mm) [12 pts]	0%	☐☐	CLAY or HARDPAN [0 pt]	0%
☐☐	GRAVEL (2-64 mm) [9 pts]	0%	☐☐	MUCK [0 pts]	0%
☐☐	SAND (<2 mm) [6 pts]	10%	☐☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0.00% (A) (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

HHEI Metric Points

Substrate Max = 40

9

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** 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]
☐ > 22.5 - 30 cm [30 pts]
☐ > 10 - 22.5 cm [25 pts]
☑ > 5 cm - 10 cm [15 pts]
☐ < 5 cm [5 pts]
☐ NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth Max = 30

15

COMMENTS **MAXIMUM POOL DEPTH** (Inches): 2

3. BANK FULL WIDTH (Measured as 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 (> 9' 7" - 4' 8") [20 pts]
☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☑ ≤ 1.0 m (<=3' 3") [5 pts]

Bankfull Width Max=30

5

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 (Per Bank) L R	FLOODPLAIN QUALITY (Most Predominant per Bank) L R	
☐☐ Wide >10m	☐☐ Mature Forest, Wetland	☐☐ Conservation Tillage
☐☐ Moderate 5-10m	☐☐ Immature Forest, Shrub or Old Field	☐☑ Urban or Industrial
☑☑ Narrow <5m	☑☐ Residential, Park, New Field	☐☐ Open Pasture, Row Crop
☐☐ None	☐☐ Fenced Pasture	☐☐ Mining or Construction

COMMENTS

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

☐ Stream Flowing
☐ Subsurface flow with isolated pools (Interstitial)
☑ Moist Channel, isolated pools, no flow (Intermittent)
☐ Dry channel, no water (Ephemeral)

COMMENTS: water filled channel but is stagnant

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

☐ None ☑ 0.5 ☐ 1.0 ☐ 1.5 ☐ 2.0 ☐ 2.5 ☐ 3.0 ☐ >3

STREAM GRADIENT ESTIMATE

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

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

QHEI PERFORMED? - ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ 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: Cairo NRCS Soil Map Page: 11 NRCS Soil Map Stream Order 2

County: Allen Township / City: Bath/Lima

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 09/19/17 Quantity: 0.22

Photograph Information: _____

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

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

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

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

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

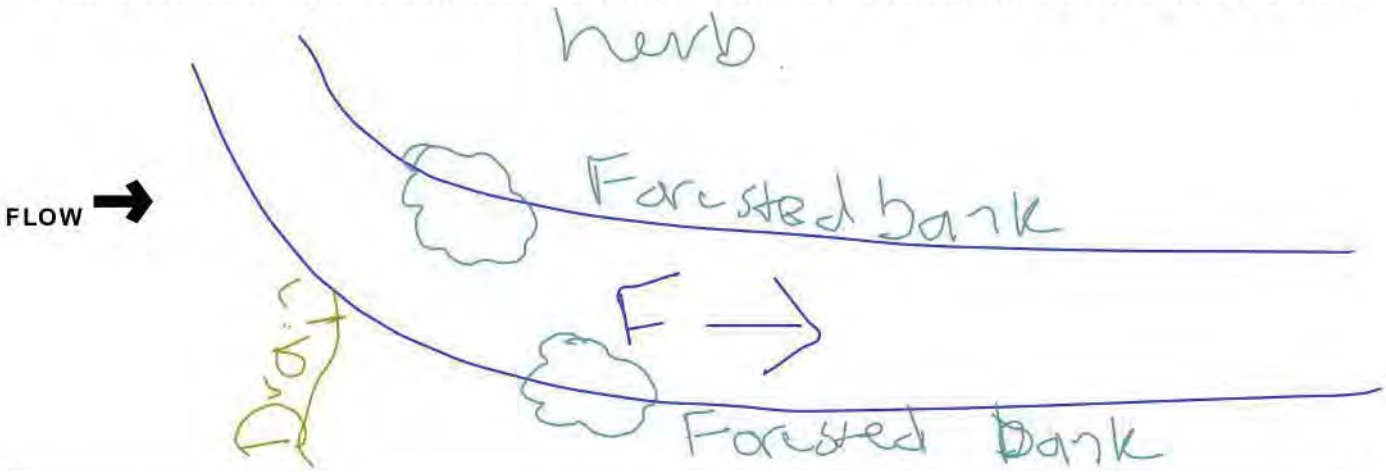
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

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



Save as pdf Reset Form

APPENDIX D

DELINEATED FEATURES PHOTOGRAPHS

D1-DELINEATED WETLANDS

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 01

PEM wetland

Category 1

Facing North

Facing Southwest

Facing South

Facing East

Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 02a

PEM wetland

Category 1

Facing North

Facing East

Facing South

Facing West

Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 02b

PFO wetland

Category 1

Facing North

Facing East

Facing South

Facing West

Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 03

PEM wetland

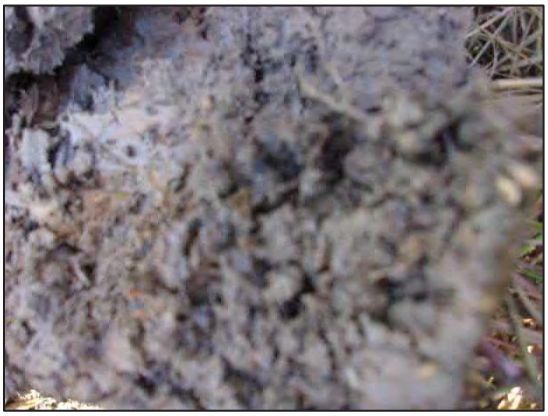
Category1

Facing Northeast

Facing South

Facing West

Facing East



Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 04

PEM/PSS wetland

Category 1

Facing North

Facing East

Facing South

Facing West

Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 05

PEM wetland

Category 1

Facing North

Facing East

Facing South

Facing West

Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 06

PFO/PSS wetland

Category 1

Facing North

Facing East

Facing South

Facing West

Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Wetland 07

PEM/PFO wetland

Category 1

Facing North

Facing East

Facing South

Facing West

Soil Pit

D2-DELINEATED STREAMS

PHOTOGRAPHIC RECORD
STREAMS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Date:

Sept. 26, 2017

Description:

Stream 01

Intermittent

Modified Class 1

Facing Upstream

Facing Downstream

Substrate

D3-DELINEATED PONDS

PHOTOGRAPHIC RECORD
PONDS

Client Name:	Site Location:	Project No.
AEP	East Lima Station Expansion Project	60555098

Photo No. 1

Date:

Sept. 26, 2017

Description:

Pond 01

Facing north

Photo No. 2

Date:

Sept. 26, 2017

Description:

Pond 01

Facing east

APPENDIX E

CORRESPONDENCE LETTERS FROM USFWS AND ODNR

Geckle, Aaron

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Monday, September 18, 2017 12:46 PM
To: Geckle, Aaron
Cc: nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us
Subject: Southwest Lima Station Expansion Project, Allen Co. OH

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# 03E15000-2017-TA-1936

Dear Mr. Geckle,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the 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. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed 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 travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags $\geq$3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be

considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) 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 and abandoned mines.

Should the proposed site contain trees ≥3 inches dbh, we recommend that trees be saved 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 that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that summer surveys may only be conducted between June 1 and August 15.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), 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 that 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.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, 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, consultation with the Service should be initiated to assess any potential impacts.

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 ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state

listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@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,

Dan Everson

Field Supervisor

cc: Nathan Reardon, ODNR-DOW

Kate Parsons, ODNR-DOW

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

December 1, 2017

Aaron Geckle
AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Re: 17-695; East Lima Station Expansion Project

Project: The proposed project involves the expansion of the existing East Lima Station.

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

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

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

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

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the clubshell (*Pleurobema clava*), a state endangered and federally endangered mussel, the northern riffleshell (*Epioblasma torulosa rangiana*), a state endangered and federally endangered mussel, and the pondhorn (*Uniomerus tetralasmus*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

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

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

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 John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler
ODNR Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693
John.Kessler@dnr.state.oh.us

June 1, 2018

Appendix B Ohio Power Company's 2018 Long Term Forecast Report

June 1, 2018

PUCO FORM FE-T8
AEP OHIO
SUMMARY OF EXISTING SUBSTATIONS ON TRANSMISSION LINES

Substation Name	Type Distribution (D) Transmission (T)	Voltage(s) (kV)	Line Association (FE-T7 or FE-T9 Notation)	Notation	Line Existing or Proposed
DELAWARE (CSP)	T	138	Delaware - Hyatt (CSP)	659	E
DELAWARE (CSP)	T	138	*Delaware - Tangy	660	E
DEXTER SWITCH	T	138	Dexter Sw. - Meigs No. 2 (Socco)	15559	E
DEXTER SWITCH	T	138	Dexter Sw. - Elliott - Poston	596	E
DEXTER SWITCH	T	138	Dexter Sw. - Rutland	6281	E
DOGWOOD RIDGE	D	138	East Wheelersburg - Millbrook	2344	E
DON MARQUIS (OP-CS) (OVEC)	T	138	Don Marquis - Waverly No. 1	13679	E
DON MARQUIS (OP-CS) (OVEC)	T	138	Don Marquis - Waverly No. 2	15137	E
DON MARQUIS (OP-CS) (OVEC)	T	138	Don Marquis - Lick	15138	E
DON MARQUIS (OP-CS) (OVEC)	T	138	Don Marquis - South Lucasville	21538	E
DON MARQUIS (OP-CS) (OVEC)	T	345	Biers Run - Don Marquis	21618	E
DON MARQUIS (OP-CS) (OVEC)	T	345	*Don Marquis - Killen (DP&L)	9237	E
DON MARQUIS (OP-CS) (OVEC)	T	765	Don Marquis - Hanging Rock	543	E
DUBLIN(CS)	D	138	Dublin - Sawmill	12717	E
DUBLIN(CS)	D	138	Britton-Dublin	24897	E
DUCK CREEK	D	138	Gorsuch - Mill Creek	11539	E
EAST AMSTERDAM	T	138	Tidd - June Road	26958	E
EAST BEAVER	T	138	Don Marquis - Lick	15138	E
EAST BROAD STREET	T	138	Blacklick - East Broad	13397	E
EAST BROAD STREET	T	138	East Broad Street - Yearling	2228	E
EAST BROAD STREET	T	138	East Broad Street - Kirk #1	648	E
EAST BROAD STREET	T	138	East Broad Street - Kirk #2	649	E
EAST BROAD STREET	T	138	Astor - East Broad Street	661	E
EAST LEIPSIC	T	138	East Leipsic - Yellow Creek	17718	E
EAST LEIPSIC	T	138	East Leipsic - Richland	4883	E
EAST LIMA	T	138	East Lima - Yellow Creek	17717	E
EAST LIMA	T	138	East Lima - Sterling	2043	E
EAST LIMA	T	138	East Lima - Ford Motor (Lima Sw.)	2061	E
EAST LIMA	T	138	East Lima - Haviland	2062	E
EAST LIMA	T	138	East Lima - New Liberty	697	E
EAST LIMA	T	138	East Lima - North Findlay	698	E
EAST LIMA	T	138	East Lima - Rockhill	699	E
EAST LIMA	T	138	East Lima - South Kenton	700	E
EAST LIMA	T	138	East Lima - West Lima	701	E
EAST LIMA	T	345	East Lima - Maddox Creek	16757	E

June 1, 2018

PUCO FORM FE-T8
AEP OHIO
SUMMARY OF EXISTING SUBSTATIONS ON TRANSMISSION LINES

Substation Name	Type Distribution (D) Transmission (T)	Voltage(s) (kV)	Line Association (FE-T7 or FE-T9 Notation)	Notation	Line Existing or Proposed
EAST LIMA	T	345	East Lima - Fostoria Central	581	E
EAST LIMA	T	345	East Lima - Southwest Lima	582	E
EAST LIMA	T	345	East Lima - Marysville	583	E
EAST LIVERPOOL	T	138	*East Liverpool - Wylie Ridge (FE)	3862	E
EAST NEW CONCORD	D	138	Muskingum River - West Cambridge	729	E
EAST POINTE	D	138	Ohio Central - Philo #1	739	E
EAST PROCTORVILLE	D	138	Darrah - North Proctorville	185	E
EAST SIDE (LIMA)	D	138	North Delphos - Sterling	24279	E
EAST WHEELERSBURG	T	138	Bellefonte - East Wheelersburg	193	E
EAST WHEELERSBURG	T	138	East Wheelersburg - Millbrook	2344	E
EAST WHEELERSBURG	T	138	East Wheelersburg Sw. - Texas Eastern	702	E
EAST WOOSTER	T	138	East Wooster - Wooster	2253	E
EAST WOOSTER	T	138	*Cloverdale (FE) - East Wooster	602	E
EAST WOOSTER	T	138	East Wooster - South Canton	704	E
EAST ZANESVILLE	T	138	Ohio Central - Philo #1	739	E
EASTOWN ROAD	D	138	Rockhill - West Lima	743	E
ELK	D	138	Corwin - Elk	22417	E
ELK	D	138	Elk - Poston	22418	E
ELLIOTT	T	138	Dexter Sw. - Elliott - Poston	596	E
FAIRCREST STREET	D	138	South Canton - Southeast Canton 138 kV	744	E
FIFTH AVENUE	D	138	Hess Street - Wilson Road	641	E
FINDLAY CENTER	T	138	Ebersole - Findlay Center	20859	E
FISHER	T	138	Fisher - Hall - Wilson	11338	E
FISHER	T	138	Fisher - Roberts	5282	E
FLAG CITY	D	138	Ebersole - New Liberty	20857	E
FLATLICK	T	765	Flatlick - Gavin	8314	E
FLATLICK	T	765	Flatlick - Marysville	8315	E
FORD MOTOR - LIMA	T	138	East Lima - Ford Motor (Lima Sw.)	2061	E
FORD MOTOR - LIMA	T	138	Ford - Rockhill	2841	E
FOSTORIA CENTRAL	T	138	Ebersole - Fostoria Central #2	20858	E
FOSTORIA CENTRAL	T	138	Ebersole - Fostoria Central #1	20860	E
FOSTORIA CENTRAL	T	138	Fostoria Central - Melmore	22938	E
FOSTORIA CENTRAL	T	138	Buckley Road - Fostoria Central	687	E
FOSTORIA CENTRAL	T	138	Fostoria Central - West End Fostoria	708	E
FOSTORIA CENTRAL	T	345	Galion - South Berwick	554	E

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Summary: Letter of Notification (Request for Expedited Treatment) electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.