

Legal Department

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

December 5, 2017

Hector Garcia Christen M. Blend Senior Counsel – Regulatory Services (614) 716-3410 (P) (614) 716-1915 (P) hgarcia1@aep.com cmblend@aep.com Chairman Asim Z. Haque Ohio Power Siting Board 180 East Broad Street Columbus, Ohio 43215

Re: Case No. 17-2438-EL-BLN Request for Expedited Treatment: In the Matter of the Letter of Notification for the Lemaster-West Lancaster 138kV Transmission Line Extension Project Update

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 Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Update



PUCO Case No. 17-2438-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.

December 5, 2017

Letter of Notification Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Update

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") provides this Letter of Notification ("LON") to the Ohio Power Siting Board ("OPSB") in accordance with the requirements of the Ohio Administrative Code Chapter 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

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

AEP Ohio Transco has identified the need to relocate a segment of the Lemaster-West Lancaster 138 kV Transmission Line (the "Project") in York Township, Athens County, Ohio. The Project consists of the removal of approximately 0.31 miles of existing 138 kV transmission line that terminates within AEP Ohio Transco's Poston Station and construction of approximately 0.40 miles of new 138 kV transmission line that will terminate within AEP Ohio Transco's proposed Lemaster Station. The LON application for the proposed Lemaster Station project has been filed with the OPSB separately under PUCO Case Nos. 16-2314-EL-BLN and 17-2281-EL-BLN in December 2016 and November 2017.

A LON for the Project was previously submitted to the OPSB on April 4, 2017, under PUCO Case No. 17-0632-EL-BLN. The location of the proposed Lemaster Station has shifted slightly east of the previously proposed location outlined in the December 2016 LON for Lemaster Station and therefore the proposed Lemaster-West Lancaster 138 kV transmission line relocation "Project Area" has also shifted slightly to the east. Figures 1.1, 1.2, and 1.3 in Appendix A show the existing Poston Station location, the general revised location of the proposed Lemaster Station, the previously proposed Lemaster-West Lancaster 138 kV transmission line relocation, and the revised Lemaster-West Lancaster 138 kV transmission line relocation Project Area.

The proposed transmission line removal work for this Project will occur on property owned by AEP Ohio Transco (Parcels P010010000100 and P010010000109). The proposed transmission line construction work for this Project will occur on property owned by AEP Ohio Transco (Parcels P010010000100, P010010000104, and P010010000109). Technical features of this project are discussed in Section B9.

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

- (1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:
- (b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.

B(2) Statement of Need

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

The Lemaster 138 kV Station (filed separately under PUCO Case Nos. 16-2314-EL-BLN and 17-2281-EL-BLN) is being developed to replace Poston Station, where the station will be retired and removed. Poston Station is currently positioned within a floodplain, and is comprised of deteriorated equipment installed in the 1940's and 1950's. The equipment of this station poses a safety concern and no longer complies with AEP safety standards. The drivers for replacement of the equipment are age, dielectric strength breakdown, short circuit strength breakdown, and accessory damage. The site where Poston Station currently sits has been subject to flooding in the past, posing a safety concern, as well as increases the difficulty of maintaining and repairing existing structures.

The purpose of this Project is to energize the proposed Lemaster Station and is part of a series of improvements to enhance the reliability of electric service in Athens County and the greater Southern Ohio area. The proposed Project, in combination with the proposed Lemaster Station project, is required to alleviate voltage concerns throughout the Southern Ohio area. The Project will improve the reliability of the transmission network in southeast Ohio and provide adequate voltage on the local 138 kV system under N-1 contingency conditions per the applicable system planning criteria. More information on this project can be found in Table 10 of the Long Term Forecast Report to be submitted to the Public Utilities Commission of Ohio.

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.

Figures 1.2, 1.3, and 1.4 in Appendix A show the location of the Project in relation to other existing AEP Ohio Transco transmission lines, the existing Poston Station, and the proposed Lemaster Station.

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.

Replacing all equipment in place within Poston Station was considered, but was not considered practical as the station is regularly flooded. In addition, outages are difficult to obtain to replace the equipment considering that the majority of the equipment is in need of replacement. The estimated cost of replacing this equipment in place is \$15,000,000, not including the cost that may potentially arise from further water damage to the station. Constructing Lemaster Station as a greenfield station is seen as a viable and preferable alternative, as it ensures the longevity of station equipment in comparison to the possibility of more frequent equipment replacement within Poston Station.

This Project minimizes impacts to the community and the environment, while taking into account the engineering and construction needs of the Project (see Sections B9 and B10 for further discussion of socioeconomic, ecological, construction, and engineering aspects of the project). The proposed Project will on property owned by AEP Ohio Transco. No streams are located in the Project Area, and there are no residences within 1,000 feet of the Project Area. The Project Area is currently undeveloped and primarily non-forested. Three emergent wetlands are located in the Project Area. However, proposed transmission line removal and relocation activities are not expected to result in the discharge of fill material in any of these wetlands, and timber mats will be utilized at wetland locations if equipment crossings are required. Limited amounts of potentially suitable Indiana bat (*Myotis sodalis*; federally endangered) and northern long-eared bat (*Myotis septentrionalis*; federally threatened) habitat is present within the Project Area, though no potential roost trees or hibernacula for these species were observed during threatened and endangered species habitat assessment field surveys completed for the Project. No potential habitat for other federally listed species was observed within the Project Area.

B(5) Public Information Program

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

The proposed Project will be located on property owned by AEP Ohio Transco. Within seven days of 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. Section 4906-6-08(A)(1-6).

Further, AEP Ohio Transco 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.

The LON will also be sent to applicable public officials concurrently with submittal to the OPSB, and a paper copy of the LON will be provided to the Athens County Public Library.

B(6) Construction Schedule

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

Construction is planned to start in January 2018. The in-service date (completion date) of the Project is expected to be on or about September 2018.

B(7) Area Map

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

Figure 1.1 included in Appendix A identifies the location of the Project Area on a USGS quadrangle map. Figure 1.2 in Appendix A is an aerial map of the Project Area. To visit the Project from Columbus, take US 33 southeast to the State Route 682 interchange approximately four miles northeast of Athens, Ohio. Take State Route 682 south for 0.25 miles and then turn right (west) on Poston Road (County Road 110). Follow Poston Road west for approximately 2.75 miles. The Project Area is located on the north side of the road.

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.

The proposed Project will be located on property currently owned by AEP Ohio Transco (Parcels P010010000100, P010010000104, and P010010000109) immediately adjacent to the existing Poston Station and proposed Lemaster Station. No property acquisition or easements are required to construct and operate the Lemaster-West Lancaster 138 kV transmission line.

B(9) Technical Features

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

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

The proposed Project will remove two existing H-frame pole structures, one existing guyed three-pole structure, and approximately 0.31 miles of existing 138 kV single circuit transmission line. The existing conductor type is 636 KCM ACSR 26/7 "Grosbeak" and the existing shield wire is 3/8 EHS steel. The Project will include the installation of four new steel pole structures and 0.40 miles of new single-circuit 138 kV transmission line, new 1033.5 KCM ASCR 50/7 "Curlew" conductors, along with a 7#8 alumoweld shield wire. All deadends will utilize pier foundations with anchor cages. The design and operating voltage will be 138 kV. Structure design and phasing diagrams are presented in Appendix C.

The proposed Project will occur on property owned by AEP Ohio Transco. No property acquisition or easements are required to construct and operate the Lemaster-West Lancaster 138 kV transmission line.

- (b) 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. The discussion shall include:
 - (i) Calculated Electric and Magnetic Field Strength Levels

This section is not applicable. There are no occupied residences or institutions located within 100 feet of the Project.

(ii) A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

There are no occupied residences or institutions located within 100 feet of the Project. The transmission line removal and relocation work associated with the Project will occur on existing AEP Ohio Transco property immediately adjacent to AEP Ohio Transco's existing Poston Station and proposed Lemaster Station. Therefore, no design alternatives were considered.

(c) The estimated capital cost of the project.

The 2018 capital cost estimate for the proposed Project, comprised of applicable tangible and capital costs, is approximately \$1,000,000.

B(10) Social and Economic Impacts

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

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

The Project is located within York Township, Athens County, Ohio. Figure 1.3 in Appendix A shows U.S. Department of Agriculture land use categories for the Project Area. According to this map, land uses in the Project Area consist of grassland, developed land, pasture/hay fields, and deciduous forest. Field observations by AEP Ohio Transco's consultant indicate the Project Area is primarily comprised of "old field" habitat, which can be characterized as non-forested grassland that is occasionally disturbed (mowed, grazed, or cleared) and contains a variety of herbaceous species, young shrubs, vines, and tree saplings. Limited areas of mixed early successional/second growth deciduous/coniferous forest, industrial/developed land, and emergent wetland are also located in the Project Area (see Appendix B). No streams are located in the Project Area.

There are currently no active residences, cemeteries, churches, schools, or other community facilities located within 1,000 feet of the Project Area (as shown on Figures 1.2 and 1.3 in Appendix A). The nearest residences are located along State Route 691 approximately 1,500 feet to the west of the Project Area. A water filtration plant is located approximately 0.25 miles to the east of the Project (approximately 1,000 feet northeast of the existing Poston Station).

No wildlife management areas or nature preserve lands are located within 1,000 feet of the Project. However, the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community were reported by the Ohio Department of Natural Resources ("ODNR") Ohio Natural Heritage Program ("ONHP") as occurring within one mile of the Project Area (see Appendix B). The proposed Project will not impact any of these resources.

B(10)(b) Agricultural Land Information

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

The Project is not located within a registered agricultural district, based on coordination with the Athens County Auditor's Office. Additionally, the Project Area does not contain any active agricultural row crop land (see Figure 1.3 in Appendix A and Figure 3 in Appendix B).

B(10)(c) Archaeological and Cultural Resources

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

In February and March of 2017, AEP Ohio Transco's consultant, Weller & Associates, Inc. (Weller) conducted Phase I cultural resource management investigations for the Project (see Appendix B of the previously filed LON under PUCO Case No. 17-0632-EL-BLN). The field

investigations were conducted within the original Project Area. AEP Ohio Transco's consultant conducted additional cultural resources surveys within the revised Project Area on October 31, 2017. The Project plans are to slightly move the proposed Lemaster Station location and Lemaster-West Lancaster transmission line relocation Project Area to the east. Weller had previously completed cultural resource management surveys for the Lemaster-West Lancaster transmission line relocation as it was proposed, which is just west of the currently planned area. The work involved visual inspection of the subject area and shovel probing to verify the conditions. The field investigations did not identify any cultural materials and the area was found to be fully and severely disturbed by grading activity associated with coal mining and activities associated with the extant Poston Station. Weller did not recommend any additional work for the Project.

The literature review conducted for this Project indicated previous cultural resource management activity involving the northern and southern portions of the Project Area (Weller 2016; Otto 1976). However, there are no previously identified sites within the Project Area. Weller's 2016 survey was for a tract where the new Lemaster Station is planned. Otto's survey (1976) was for an electric line corridor. The Poston Station (ATH0063302) is located within the study area, though this site is not regarded as significant. Site 33AT1057 is located near the western edge of the previous study area. This site was recommended for additional work if it were to be impacted. However, it is not near the Lemaster-West Lancaster 138 kV transmission line relocation Project Area. For more information, see the Phase I Cultural Resources Management Investigations report included in Appendix B of the previously filed LON under PUCO Case No. 17-0632-EL-BLN. An addendum cultural resources survey letter report has been prepared under separate cover.

The Project will not directly involve any buildings, structures, or archaeological sites. The archaeological field reconnaissance involved subsurface testing and visual inspection and determined that the Project Area has been severely altered and disturbed or previously investigated. No cultural materials were identified during these investigations. The Project will not involve or impact any significant cultural resources or landmarks and AEP Ohio Transco's consultant recommends no further cultural resource management work.

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.

Best management practices (BMPs) will be implemented and maintained to minimize erosion and control sediment to protect surface water quality during storm events. If applicable (based on the final Project disturbance area), a project-specific Storm Water Pollution Prevention Plan (SWPPP) will be prepared and a Notice of Intent (NOI) will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000004.

No streams are located in the Project Area. However, three emergent wetlands are located in the Project Area (see Appendix B). Transmission line removal and relocation activities are not expected to result in the discharge of fill material in any of these wetlands, and timber mats will be utilized at wetland locations if equipment crossings are required. Therefore, the Project is not expected to require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, a Pre-Construction Notification to the U.S. Army Corps of Engineers, or a Section 401 Water Quality Certification from the Ohio Environmental Protection Agency.

The Project is not located within a Federal Emergency Management Agency ("FEMA") 100-year floodplain area. Therefore, no floodplain permitting is required for the Project. There are no other known local, state or federal requirements that must be met prior to commencement of the Project.

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

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

The United States Fish and Wildlife Service ("USFWS") Midwest Region's Ohio County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species (available at https://www.fws.gov/midwest/endangered/lists/ohio-cty.html) was reviewed to determine the threatened and endangered species currently known to occur in Athens County. This USFWS publication listed the following threatened or endangered species as occurring in Athens County: Indiana bat (Myotis sodalis; federally endangered), northern long-eared bat (Myotis septentrionalis; federally threatened), fanshell (Cyprogenia stegaria; federally endangered), sheepnose (Plethobasus cyphyus; federally endangered), pink mucket pearly mussel (Lampsilis abrupta; federally endangered), snuffbox (Epioblasma triquetra; federally endangered), and American burying beetle (Nicrophorus americanus; federally endangered). Limited amounts of potentially suitable Indiana bat and northern long-eared bat habitat is present within the Project Area, though no potential roost trees or hibernacula for these species were observed during threatened and endangered species habitat assessment field surveys completed for the Project. No potential habitat for other federally listed species was observed within the Project Area. As part of the ecological study completed for the Project, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The November 28, 2016 response letter from USFWS (see Appendix B) indicated that the proposed Project is within the range of the Indiana bat and northern long-eared bat in Ohio, and within the vicinity of one or more confirmed records of Indiana bats, but if tree clearing occurs between October 1 and March 31, they do not anticipate the Project having any adverse effects to these species or any other

federally listed endangered, threatened, proposed, or candidate species. The USFWS letter did not include any comments specific to the other federally listed species.

Several state-listed threatened species, endangered species, and species of concern are listed by the Ohio Department of Natural Resources (http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/state-listed%20species/athens.pdf) as occurring, or potentially occurring in Athens County. These state-listed species are addressed in detail in the Ecological Resources Inventory Report included in Appendix B.

Coordination letters were submitted via email to the Ohio Department of Natural Resources ("ODNR") Division of Wildlife ("DOW") Ohio Natural Heritage Program ("ONHP") and the ODNR - Office of Real Estate in November 2016, seeking an environmental review of the proposed Project for potential impacts on state-listed and federally-listed threatened or endangered species. Correspondence from ODNR's DOW/OHNP and the ODNR – Office of Real Estate was received on November 17 and December 30, 2016, respectively (see Appendix B).

According to the ODNR - Office of Real Estate, the Project is within the vicinity of records for the Indiana bat and presence of the Indiana bat has been established in the area. If suitable habitat occurs within the project area, the ODNR recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this Project is not likely to impact this species. The ODNR - Office of Real Estate also indicated that due to the Project location, and that there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact federal and state-listed mussel species. The Project is also within the range of the channel darter (*Percina copelandi*), a state threatened fish, and the river darter (*Percina shumardi*), a state threatened fish. The ODNR - Office of Real Estate recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this Project is not likely to impact these or other aquatic species. The project is also within the range of the timber rattlesnake (Crotalus horridus horridus), a state endangered species and a federal species of concern, the eastern spadefoot toad (Scaphiopus holbrookii), a state endangered species, mud salamander (Pseudotriton montanus), a state threatened species, and black bear (Ursus americanus), a state endangered species. The ODNR - Office of Real Estate indicated that due to the location, the type of habitat present at the project site, and the type of work proposed, this Project is not likely to impact these species.

According to the DOW/OHNP, three species are known to occur within a one-mile radius of the Project Area, including rough boneset (*Eupatorium pilosum*; status not yet determined), a caddisfly (*Brachycentrus numerosus*; state endangered), and eastern box turtle (*Terrapene carolina*; state species of concern). None of these known locations is within or in the immediate vicinity of the Project Area and no impacts to these species are anticipated (see Appendix B for further information). Potentially suitable habitat for three other state-listed species, black bear (*Ursus americanus*; state endangered), marsh fern moth (*Fagitana littera*; state threatened), and timber rattlesnake (*Crotalus horridus horridus*; state endangered) was observed in the Project

Area. However, none of these species is known to occur within a mile of the Project Area, and no impacts to these species are anticipated (see Appendix B for further information).

B(10)(f) Areas of Ecological Concern

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

The ODNR DOW/OHNP response indicated that they are unaware of any unique geological features or scenic rivers within a mile of the Project Area, but did state that the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community exist within a one-mile radius of the Project. However, none of these known locations occur within or immediately adjacent to the Project Area and no impacts are anticipated (see Appendix B). Correspondence received from the USFWS (see Appendix B) indicated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project vicinity.

The FEMA Flood Insurance Rate Map was consulted to identify any floodplains/flood hazard areas that have been mapped in the Project Area (specifically, map number 39009C0095C). Based on this map, no mapped FEMA floodplains are located in the Project Area. Therefore, no floodplain permits will be required for this Project.

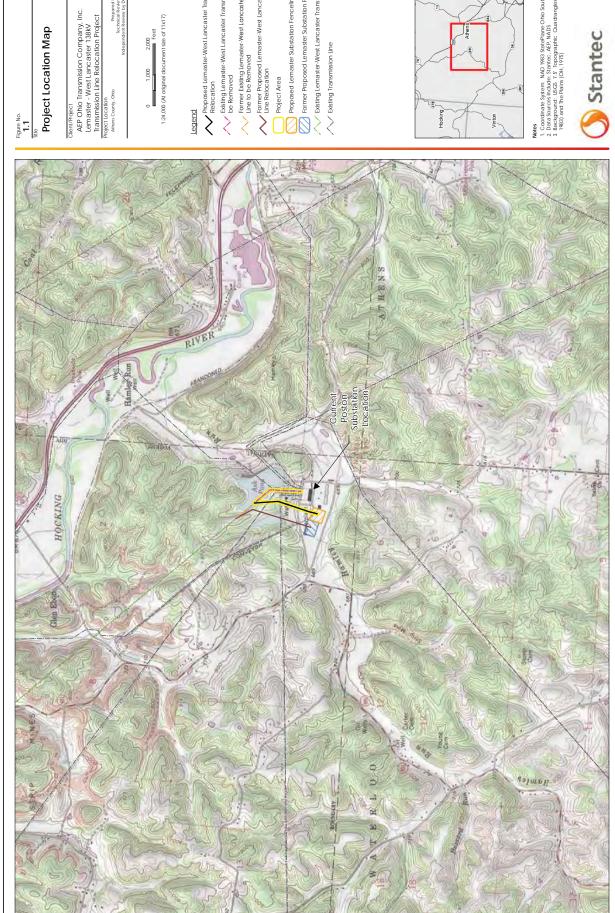
Wetland and stream delineation field surveys were completed within the Project Area by AEP Ohio Transco's consultant in November 2016 and November 2017. The results of the wetland and stream delineations are presented in the Ecological Resources Inventory Report included in Appendix B. No streams were identified in the Project Area. However, three emergent wetlands are located in the Project Area (see Appendix B). Proposed transmission line removal and relocation activities are not expected to result in the discharge of fill material in these wetlands, and timber mats will be utilized at wetland locations if equipment crossings are required.

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.

Appendix A. Project Maps



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Proposed Lemaster-West Lancaster Transmission Line Relocation

Existing Lemaster-West Lancaster Transmission Line to be Removed

Former Existing Lemaster-West Lancaster Transmission
Line to Removed
Former Proposed Lemaster-West Lancast or Transmission
Line Relocation

Proposed Lemaster Substation Fenceline

A. Existing Lemaster-West Lancaster Transmission Line Former Proposed Lemaster Substation Fenceline



Notes

Coordinale System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet

2. Data Sources Include: Stanter, AEP NADS

3. Beckground: USGS 7.5 Topographic Qualidrangies: Netsonville (OH, 1983) and the Pleins (OH, 1975)

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Proposed Lemaster-West Lancaster Transmission Line Relocation

Former Existing Lemaster-West Lancaster Transmission Line to be Removed

Former Proposed Lemaster-West Lancaster Transmission Line Relocation

Project Area

Proposed Lemaster Substation Fenceline

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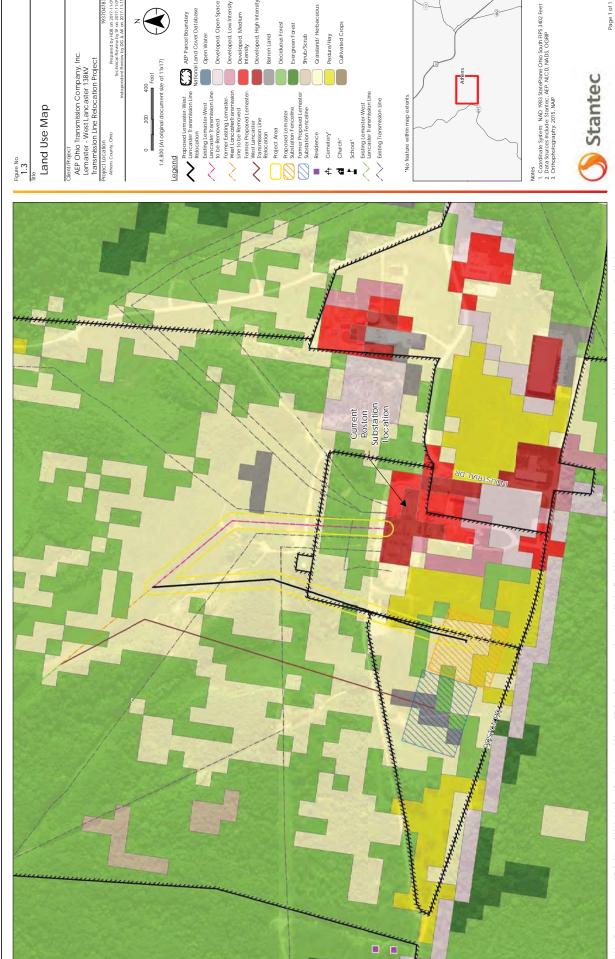


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Coordinate System: NAD 1983 StatePlane Oho South FIPS 3402 Feet
2. Deta Sucross Include: Stantec. AFP, NADS, OGRIP
3. Othropholography, 2015. NAIP



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Developed, Medium Intensity Developed, High Intensity AEP Parcel Boundary nal Land Cover Database

Developed, Open Space

Developed, Low Intensity

Deciduous Forest Evergreen Forest

Shrub/Scrub Pasture/Hay

Barren Land

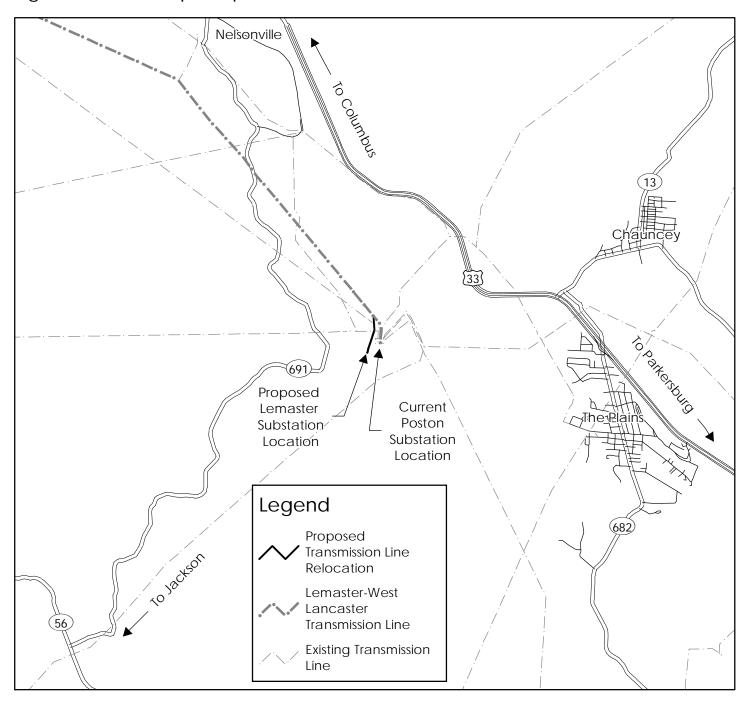
Cultivated Crops Grassland/ Her



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Figure 1.4 - Concept Map



Appendix B. Ecological Resources Inventory Report

Lemaster-West Lancaster 138 kV Transmission Line Relocation Project, Athens County, Ohio

Ecological Resources Inventory Report



Prepared for: AEP Ohio Transmission Company, Inc. 700 Morrison Road Gahanna, Ohio 43230

Prepared by:

Stantec Consulting Services Inc. 11687 Lebanon Road Cincinnati, Ohio 45241

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1.0 Introduction

AEP Ohio Transmission Company, Inc. (AEP) is proposing to relocate a portion of the Lemaster-Ross 138 kV electric transmission line in Athens County, Ohio (Figure 1, Appendix A). The Project includes removing approximately 0.31 miles of existing 138 kV transmission line which terminates at AEP's existing Poston Station and constructing approximately 0.40 miles of new 138 kV transmission line which will terminate at AEP's proposed Lemaster Station (Figure 1, Appendix A). The proposed Lemaster Station is separate AEP project. The Project area (as depicted on Figures 1, 2, and 3 in Appendix A) was surveyed for wetlands, waterbodies, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on November 7-8, 2016, and November 10, 2017. The approximate locations of features adjacent to the Project area were also recorded during field surveys. These features are shown on the Figure 2 maps in Appendix A as "approximate" wetlands, streams, open waters, and upland drainage features. This report covers recent revisions to the proposed Lemaster-West Lancaster transmission line location due to a shift in the location of the proposed Lemaster Station. The previous proposed transmission line and station locations are illustrated in Figures 1, 2, and 3 for documentation purposes.



2.0 Methods

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil surveys, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0) (USACE 2012). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's Guidance on Ordinary High Water Mark Identification (Regulatory Guidance Letter, No. 05-05) (USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (USACE 2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI) and/or Qualitative Habitat Evaluation Index (QHEI). The centerline of each waterway was identified and surveyed using a handheld sub-meter accuracy GPS unit and mapped with GIS software. Additionally, the locations of ponds/open water features and upland drainage features (which lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

2.3 RARE SPECIES

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



3.0 Results

3.1 TERRESTRIAL HABITAT

Stantec completed field surveys within the Project area on November 7-8, 2016, and November 10, 2017, for threatened and endangered species or their habitats. Figure 3 (Appendix A) shows the vegetation communities/habitats and locations of any identified rare, threatened or endangered species habitat observed within the Project area. Representative photographs of the vegetation communities/habitats identified within the Project area are included in Appendix C of this report (photo locations are shown on Figures 2 and 3, Appendix A). Information regarding the vegetation communities/habitats identified within the Project area is provided in Table 1.

Table 1. Vegetation Communities and Land Cover Found within the Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Old Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa). Dominant species include tall fescue (<i>Schedonorus arundinaceus</i>), broomsedge bluestem (<i>Andropogon virginicus</i>), goldenrod (<i>Solidago</i> sp.), and aster (<i>Symphyotrichum</i> sp.).	No	6.5
Mixed Early Successional/ Second Growth Deciduous/Coniferous Forest	Some past disturbance but trending to naturalized. Dominated by sugar maple (Acer saccharum), beech (Fagus grandifolia), pine (Pinus sp.) and American elm (Ulmus americana).	No	1.0
Industrial	Extreme Disturbance/existing gravel pad. Dominated by dandelion (<i>Taraxacum officionale</i>) and white clover (<i>Trifolium repens</i>).	No	0.5
		Total	8.0

3.2 WETLANDS

Stantec completed field surveys within the Project area on November 7-8, 2016, and November 10, 2017, for wetlands and waterbodies. Figure 2 (Appendix A) shows the wetlands identified by Stantec within the Project area. Representative photographs of the wetlands identified within



the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed wetland determination and ORAM data forms are included in Appendix D. Information regarding the Cowardin classification and ORAM categories of wetlands identified within the Project is provided in Table 2.

Table 2. Summary of Wetland Resources Found within the Lemaster-West Lancaster 138 kV
Transmission Line Relocation Project Area, Athens County, Ohio

Wetland Name	Figure 2 Photo Location ¹	Isolated?	Wetland Classification ²	ORAM Score ⁴	ORAM Category ⁴	Delineated Area (acres) within Project Area
Wetland 1	1	No	PEM ³	35.5	2	0.57
Wetland 2	2	Yes	PEM ³	12	1	0.02
Wetland 3	4	Yes	PEM ³	10	1	0.01
	-				TOTAL	0.60

¹ Figure 2 and Appendix C – Representative Photographs

3.3 STREAMS

Stantec completed field surveys within the Project area on November 7-8, 2016, and November 10, 2017, for wetlands and waterbodies. No streams or open waters were identified within the Project area. However, Figure 2 (Appendix A) shows the locations of non-jurisdictional upland drainage features identified within the Project area. Representative photographs of upland drainage features identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A).



² Wetland classification is based on Cowardin et al. (1979).

³ PEM = Palustrine Emergent Wetland

 $^{^4}$ ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetlands v. 5.0 (Mack 2001).

3.4 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 3. Summary of Potential Ohio State-Listed Species within the Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Common Name	Scientific Name	State Listing ¹	Known to Occur in Athens County?2	Known Within One Mile of Project Area? ³	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
					Insects			
Regal Fritillary	Speyeria idalia	Е	Yes	No	Occurs in tall grass prairie remnants (Lotts and Naberhaus 2017).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Grizzled Skipper	Pyrgus centaureae wyandot	Е	Уеѕ	No	This species is associated with openings in mature oak forests that support stands of Canada cinquefoll, Most of these areas are highly disturbed, and are characterized by fair amounts of exposed soil and rock (ODNR 2017b).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
American Burying Beetle	Nicrophorus americanus	E	Yes	No	Current information suggests this species is a habitat generalist, or one that lives in many types of habitat, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2017b).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Caddisfly	Brachycentrus numerosus	E	Yes	Yes	Habilat preference has not been assessed at this time (NatureServe 2017), though caddisflies normally occur in streams, rivers, and ponds.	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Marsh Fern Moth	Fagitana littera	L	Yes	No	This species typically occurs in unforested wetlands such as bogs, shrub swamps, and marshes. This species also occurs along wet powerlines and wet open pinelands (New York Natural Heritage Program 2015).	Yes	Some potentially suitable habitat was observed within the Project area. However, this species is not known to occur within the vicinity of the Project area. Therefore, no impacts are anticipated.	No comments received.
					Fishes			
Channel Darter	Etheostoma tippecanoe	F	Yes	N O	This fish prefers medium to large streams in the Ohio River drainage system and are found in riffles of moderate current with substrate of gravel or cobbie sized rocks (ODNR 2017b).	o Z	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	ODNR recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species or other aquatic species.



Common Name	Scientific Name	State Listing ¹	Known to Occur in Athens County?2	Known Within One Mile of Project Area? ³	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
River Darter	Percina shumardi	Т	Yes	O N	Large rivers and lower portions of tributaries; deep chutes and riffles where current is swift and substrates are coarse gravel or rock (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	ODNR recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aqualic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species or other aqualic species.
					Amphibians			
Midland Mud Salamander	Pseudotriton montanus diastictus	⊢	Yes	NO	Muddy springs, slow floodplain streams, and swamps along slow streams; backwater ponds and marshes created by beaver activity (NatureServe 2017).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and type of work proposed, the Project is not likely to impact this species.
Eastem Spadefoot	Scaphiopus holbrookii	Е	Yes	O Z	Eastem spadefoots occur in areas of sandy, gravelly, or soft, light soils in wooded or unwooded terrain. On land, they range up to at least several hundred meters from breeding size. When inactive, they remain burrowed in the ground. Eggs and larvae develop in temporary pools formed by heavy rains. Breeding sites include temporary pools and areas flooded by heavy rains. (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and type of work proposed, the Project is not likely to impact this species.
Eastem Hellbender	Cryptobranchus alleganiensis alleganiensis	Е	Yes	O Z	Rocky, clear creeks and rivers, usually where there are large shelter rocks. The species prefers cool waters with temperatures usually lower than 20 degrees Ceisus. High amounts of instream cover are needed for shelter/reproduction, including large flat rocks or submerged logs (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
					Mussels			
Clubshell	Pleurobema clava	Е	Yes	O N	The clubshell is found in small to medium rivers, but occasionally found in large rivers, especially those having large shoal areas. It is generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle and cannot tolerate mud or slackwater conditions (USFWS 1994). Badra and Goftont (2001) found the clubshell in gravel/sand substrate, in runs having laminar flow (0.06-0.25 m/sec) within small to medium sized streams.	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Snuffbox	Epioblasma triquetra	Е	Yes	O N	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Fanshell	Cyprogenia stegaria	ш	Yes	O N	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.



Common Name	Scientific Name	State Listing ¹	Known to Occur in Athens County?2	Known Within One Mile of Project Area? ³	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Pink Mucket	Lampsilis orbiculata	Ш	Yes	O N	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift, but never standing pools of water (NatureServe 2017).	ON O	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Sheepnose	Plethobasus cyphyus	ш	Yes	O Z	Although it does inhabit medium-sized rivers, this mussel generally has been considered a large-river species. It may be associated with riffles and gravel/cobble substrates but usually has been reported from deep water with slight to swift currents and mud, sand, or gravel bottoms. It also appears capable of surviving in reservoirs. Specimens in larger rivers may occur in deep runs (NatureServe 2017).	ON.	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Black Sandshell	Ligumia recta	—	Yes	ON	Typically found in medium-sized to large rivers in locations with strong current and substrates of coarse sand and gravel with cobbies in water depths from several inches to six feet or more (NatureServe 2017).	OZ	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Threehom Wartyback	Obliquaria reflexa	Ţ	Yes	O N	This species is typical of the large rivers where there is moderately strong current and a stable substrate composed of gravel, sand, and mud (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Fawnsfoot	Truncilla donaciformis	Ţ	Yes	O N	This species occurs in both large and medium-sized rivers at normal depths varying from less than three feet up to 15 to 18 feet in big rivers such as the Tennessee. Substrates of either sand or mud are suitable and although it is typically found in moderate current, it can adapt to a lake or embayment environment lacking current (NatureServe 2017).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
					Mammals			
Indiana Bat	Myotis sodalis	ш	, ≺es	O N	The Indiana bat is likely distributed over the entire State of Ohlo, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas. Dead trees are preferred as maternity roosts, however, live trees are often used as secondary oxosts depending on microclimate conditions (USFWS 2007). USFWS 2017D). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarity use caves for hibernacula, although are also known to hibernate in abandoned underground mines	ON	No hibernacula or suitable roost trees were observed within the Project area. If AEP determines trees >3" dbh must be removed for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	The project is within the vicinity of records for the Indiana bat. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. If suitable habitat occurs within the project area, ODNR recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this project is not likely to impact this species.
Allegheny Woodrat	Neotoma magister	Е	Yes	No	Typical habitat is rocky cliffs and slopes (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.



			I				
ODNR Comments/Recommendations	Due to the mobility of this species, the Project is not likely to impact this species.	No comments received.		Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.	No comments received.	No comments received.	
Impact Assessment	Habitat was observed within the Project area, but due to the mobility of this species no impacts are anticipated.	No hibernacula or suitable roost trees were observed within the Project area. If AEP determines trees >3" abn must be removed for this project, AEP anticipates clearing the trees between October 1 and March 31. Iherefore, no adverse effects are anticipated.		Potential habitat (open areas adjacent to hilly forsted areas) was observed within the Project area, but typical habitat was not observed and due to the mobility of this species, no impacts are anticipated.	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	This species typically prefers moist forest and scrub shrub habitat as opposed to the open, old field habitat observed in the majority of the Project area. Small amounts of forested habitat are present within the Project area. Due to this and the mobility of this species, no impacts are anticipated.	
Potential Habitat Observed in Project Area?	Yes	ON N		Yes	NO	Yes	
Habitat Preference	Black bears inhabit forests and nearby openings, including forested wetlands. When inactive, they occupy dens under fallen trees, ground-level or above-ground tree cavities or hollow logs, underground cave-like sites, or the ground surface in dense cover (NatureServe 2017)	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and obenings in forested habitat and utilizes cracks, cavilies, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010, USFW/s 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and fittle to no air current (Brack et al. 2010).	Reptiles	In the central Midwest, optimum habitat is a high, dry ridge with oak-hickory forest interspersed with open areas. With oak-hickory forest interspersed with open areas. Hibemacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fissure in a ledge, a crevice between ledge and ground, and fallen rock associated or unassociated with cliffs (NatureServe 2017).	Spotted turtles inhabit mostly unpolluted, shallow bodies of water with a soft bottom and aquatic vegetation, such as small marshes, marshy pastures, bogs, fens, woodland streams, swamps, small ponds, vernal pools, and lake margins; in some areas they occurrin brackish tidal streams (NatureServe 2017).	This species prefers forests, fields, and scrub shrub habitals. Eastern box furtles use looses soil, debris, and leaf litter for cover. Areas with loose, loamy soils are preferred for egg laying sites (NatureServe 2017).	Plants
Known Within One Mile of Project Area? ³	O N	O _N		O Z	O Z	Y	
Known to Occur in Athens County?2	Yes	Yes		Yes	Yes	Yes	
State Listing ¹	Ы	SOC		Е	T	SOC	
Scientific Name	Ursus americanus	Myotis septentrionalis		Crotalus horridus horridus	Clemmys guttata	Terrapene carolina	
Common Name	Black Bear	Northern Long- eared Bat		Timber Rattlesnake	Spotted Turtle	Eastern Box Turtle	



Known Within One Mile of Habitat Preference roject Area?³	ODNR Comments/Recommendations
	-
yes This species prefers wet meadows and open, swampy woods	No comments received
dominated by native species (NatureServe 2017).	
	_

TE-Endangered; T=Threatened; SOC=Species of Concern
PAccording to Ohio Department of Natural Resources, State Listed Wildlife Species by County (ODNR 2017a).
According to Ohio Natural Heritage Program (Appendix B).



Table 4. Summary of Potential Federally-Listed Species within the Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

	SU		cone sats. Sas >3 sas	than					
	USFWS Comments/ Recommendations		The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Iherefore, USFWS recommends that trees >3 inches dab be saved wherever possibly of the project has been confirmed, clearing of trees >3 inches dab during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with USFWS is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, USFWS recommends that removal of any trees >3 inches dab only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-	No specific comments received (other than discussion of suitable habitat).		No comments received.		No comments received.	No comments received.
•	Impact Assessment		No hibemacula or suitable roost trees were observed within the Project area. If AEP determines trees >3" abh must be removed for this project, AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No hibemacula or suitable roost trees were observed within the Project area. If AEP determines trees >3" dbh must be removed for this project, AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.		No nests or sultable nesting habitat was observed in the Project area. Therefore, no impacts are anticipated.		No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No habitat was observed within the Project area. Therefore, no impacts are anticipated.
•	Potential Habitat Observed in Project Area?		8	O Z		O Z		O Z	No
	Habitat Preference	Mammals	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also frange over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007, USFWS 2017b). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Birds	Breeding habitat most commonly includes areas close to (within 4 km) coastal areas, bays, rivers, lakes, reservoirs, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, or seabirds. This species typically nests in large trees or on cliffs (NatureServe 2017).	Mussels	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2017).	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2017).
	Known to Occur in Athens County?2		Yes	Yes		Yes		Yes	Yes
•	Federal Listing ¹		ш	-		soc		ш	Е
	Scientific Name		Myotis sodalis	Myotis septentrionalis		Haliaeetus Ieucocephalus		Epioblasma triquetra	Cyprogenia stegaria
	Common Name		Indiana bat	Northem Long-eared Bat		Bald Eagle		Snuffbox	Fanshell



arge rivers in habitats ranging from silt toommonly from gravel and cobble. Cit water with current velocity ranging from pools of water (Natu hough it does inhabit medium-sized river species. It may grave/Icobble substrates but usually has grave/Icobble substrates but usually has grave/Icobble substrates but usually has with slight to swift currents and mud.; appears capable of surviving in rearnout occur in deep runs (Naturent information suggests this species in many types of habitat, but with, and the open understory of oak-hi and the open understory of oak-hi hickory forest interspersed with open a rocky area where undergraverwhitering, such as a fissure in a ledge ground, and fallen rock associate	Habitat Preference Described in Project Area?	to boulders, but apparently more No habitat was observed within the ollected from shallow and deep No Project area. Therefore, no impacts No comments received. area nticipated.	vers, this mussel generally has been associated with riffles and stand or gravel bottoms. It also ins. Specimens in larger fivers may attresserve 2017).	Insects	is a habitat generalist, or one that a slight preference for grasslands No Project area. Therefore, no impacts No comments received. Including the project area are anticipated.	Reptiles	Itat is a high, dry ridge with oak- areas. Hibernacula are typically ound crevices provide retreats for typical behaven a ledge and typical habitat was not observed with ciffs due to the mobility of this species, no
- - - - - - - - - -		of from silt to boulders, but apparently more cobble. Collected from shallow and deep anging from zero to swift, but never standing rater (NatureServe 2017).		Insects		Reptiles	
Yes Yes Yes	Federal Occur in Listing ¹ Athens County? ²	ш	Ш		ш		2000
	Scientific Name Lis	Lampsilis orbiculata	lethobasus cyphyus		icrophorus mericanus		Crotalus horridus Ss horridus
Listing1	Common Scie	Pink Mucket	Sheepnose		American N Burying a Beetle a		Timber Rattlesnake

¹E=Endangered; T=Threatened ²According to USFWS (2017a).



4.0 Conclusions and Recommendations

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species or their habitats within the Project area on November 7-8, 2016, and November 10, 2017. During the field surveys, three palustrine emergent wetlands totaling approximately 0.60 acres were identified within the Project area. See Table 2 for more information regarding the wetland classifications and ORAM categories for wetlands identified within the Project area. No streams or open waters were identified within the Project area.

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

Two state-listed species of concern and one state-listed endangered species are known to occur within a one-mile radius of the Project area, according to correspondence received from the ODNR Natural Heritage Program (NHP), including rough boneset, eastern box turtle, and a caddisfly, respectively (Appendix B). None of these known locations are within or in the immediate vicinity of the Project area. Some small amounts of potentially suitable habitat for eastern box turtle is present in the Project area, though this species typically prefers moist forest and scrub shrub habitats. No eastern box turtles were observed in the Project area and due to the mobility of this species and dominant habitat observed in the Project area (open, nonforested), the proposed Project is not expected to impact this species. No habitat for rough boneset or caddisfly occurs in the Project area and no impacts to these species are anticipated. Potential habitat for two other state-listed species, black bear, and timber rattlesnake, were also observed in the Project area. However, neither of species is known to occur within a mile of the Project area, and due to their mobility, no impacts to these species are anticipated. The ODNR NHP also responded that they are unaware of any unique geological features or scenic rivers within a mile of the Project area, but did state that the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community exist within a mile of the Project area (Appendix B). However, none of these known locations occur within or immediately adjacent to the Project area and no impacts are anticipated.

According to the ODNR - Office of Real Estate, the Project is within the vicinity of records for the Indiana bat and presence of the Indiana bat has been established in the area. If suitable habitat occurs within the Project area, ODNR recommends trees be conserved. If suitable habitat occurs within the Project area and trees must be cut, ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this Project is not likely to impact this species. No hibernacula or suitable summer roost habitat for Indiana bat (or northern long-eared bat) was identified in the Project area during field surveys. If AEP



determines that trees >3" dbh must be removed for this Project, AEP anticipates clearing the trees between October 1 and March 31.

The ODNR - Office of Real Estate also indicated that due to the Project location, and that there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact federal and state-listed mussel species. The Project is also within the range of the channel darter, a state threatened fish, and the river darter, a state threatened fish. The ODNR - Office of Real Estate recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this Project is not likely to impact these or other aquatic species. No streams were identified in the Project area during field surveys and therefore no suitable mussel habitat or fish habitat is located in the Project area. The Project is also within the range of the timber rattlesnake, a state endangered species and a federal species of concern, the eastern spadefoot toad, a state endangered species, mud salamander, a state threatened species, and black bear, a state endangered species. The ODNR - Office of Real Estate indicated that due to the location, the type of habitat present at the Project site, and the type of work proposed, this Project is not likely to impact these species.

A technical assistance letter was submitted to the USFWS for this Project. The USFWS response letter (Appendix B) indicates the proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, USFWS recommends that trees >3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees >3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with USFWS is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, USFWS recommends that removal of any trees >3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. No hibernacula or suitable summer roost habitat for Indiana bat (or northern long-eared bat) was identified in the Project area during field surveys. If AEP determines trees >3" dbh must be removed for this project, AEP anticipates clearing the trees between October 1 and March 31.

The USFWS also stated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project area, but recommended that impacts to wetlands and other water resources be avoided or minimized to the maximum extent possible, and that best management practices be utilized to minimize erosion and sedimentation and prevention of non-native, invasive plant establishment.



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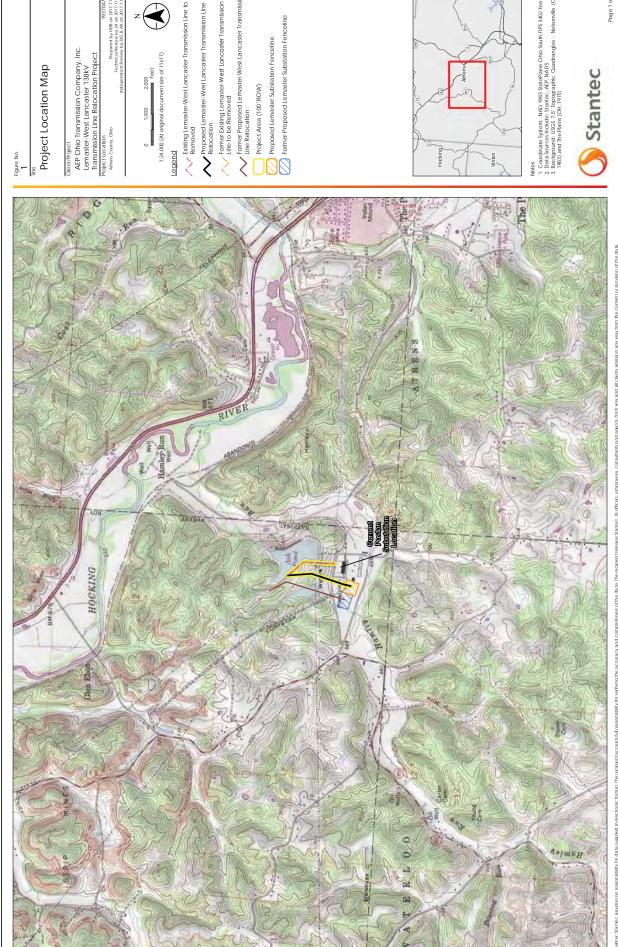


LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

Appendix A Figures

A.1 FIGURE 1 – PROJECT LOCATION MAP





Project Location Map

Existing Lemaster-West Lancaster Trans Removed

Former Proposed Lemaster-West Lancaster Transmission Line Relocation

Project Area (100'ROW)

Proposed Lemaster Substation Fenceline
Proposed Lemaster Substation Fen

Notes

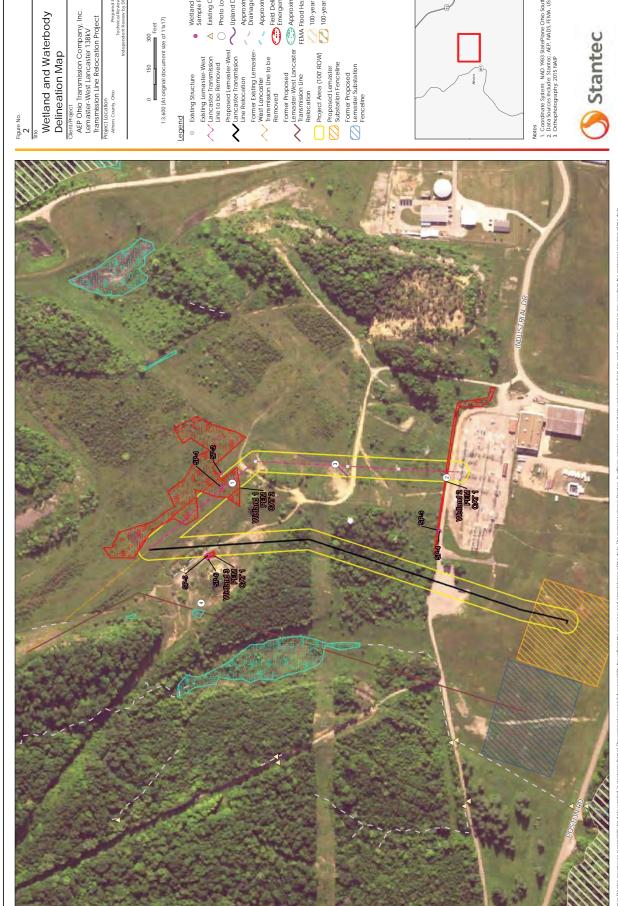
2. Candrales System, NAD 1983 StatePlane Orbo South FIPS 3402 Feet
2. Data Sources Includes, Stantec, AEP, NADS
3. Background, 1982, 7.8 Topgesparb, Caudranges - Neisonville (OH, 1983) and The Plane (OH, 1978).

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LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP





300 Feet nent size of 11x17)

Existing Lemaster-West
Lancaster Transmission
Line to be Removed

Wetland Determination
Sample Point

Existing Culvert

Photo Location

Upland Drainage Fea Approximate Upland Drainage Feature

Former Existing Lemaster-West Lancaster Transmission Line to be Removed

Approximate Water

Field Delineated Emergent Wetland Former Proposed
Lemaster-West Lancaster
Transmission Line
Relocation

Approximate Wetland FEMA Flood Hazard Areas Project Area (100' ROW)

7 100-year Flood Zone 700-year Floodway

Former Proposed

Lemaster Substation
Fenceline



Notes

Coordinate System, NAD 1983 StatePlane Oho South FIPS 3402 Feet
2 Data Sources Include: Stanter, AEP, NADS, FEMA, USGS, OGRIP
3 Orthophotography, 2015 NAP

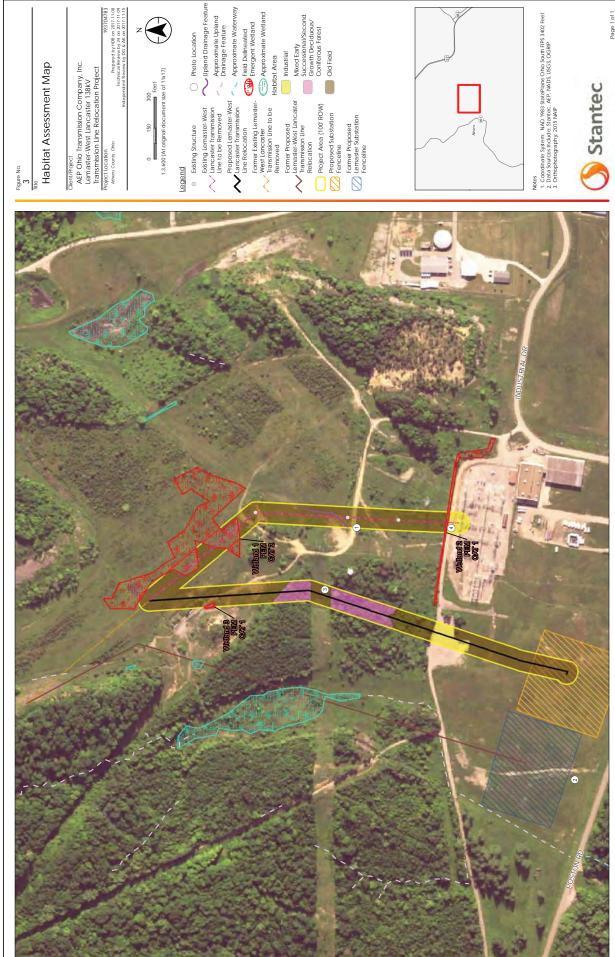


Stantec

LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

A.3 FIGURE 3 – HABITAT ASSESSMENT MAP





Mixed Early
Successional/Second
Growth Deciduous/
Conferous Forest Approximate Wetland

Page 1 of 1

LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

Appendix B Agency Correspondence



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 30, 2016

Dan Godec Stantec Consulting Services Inc. 11687 Lebanon Road Cincinnati, Ohio 45241

Re: 16-865; Request for Technical Assistance, AEP Lemaster Station Project

Project: The proposed project involves the construction of the Lemaster Station.

Location: The proposed project is located in York, Dover, and Waterloo Townships, Athens 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 data request response is included on pages 3-4 of the project documentation.

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

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

The project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. 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 no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the club shell (*Pleurobema clava*), a state endangered and federally endangered mussel, the sheepnose (*Plethobasus cyphyus*), a state endangered and federally endangered mussel, the fanshell (*Cyprogenia stegaria*), a state endangered and federally endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel, the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel, and the black sandshell (*Ligumia recta*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the channel darter (*Percina copelandi*), a state threatened fish, and the river darter (*Percina shumardi*), a state threatened fish. The DOW recommends no inwater work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this project is not likely to impact these or other aquatic species.

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

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

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

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, 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/water-use-planning/floodplain-management#PUB

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

Ohio Division of Wildlife Raymond W. Petering, Chief 2045 Morse Rd., Bldg. G Columbus, OH 43229-6693 Phone: (614) 265-6300

November 17, 2016

Dan Godec Stantec Consulting Services, Inc. 11687 Lebanon Rd. Cincinnati, OH 45241

Dear Mr. Godec.

I have reviewed the Natural Heritage Database for the Lemaster Station project area, including a one mile radius, in York, Dover and Waterloo Townships, Athens County, Ohio. The numbers/letters on the list below correspond to the areas marked on the accompanying map. Common name, scientific name and status are given for each species.

- A. Wayne National Forest US Forest Service
- B. Hamley Run Floodplain Forest Conservation Site
- 1. Eupatorium pilosum Rough Boneset, recently added to inventory, status not determined
- 2. Breeding Amphibian Site
- 3. Brachycentrus numerosus caddisfly, endangered
- 4. Floodplain Forest Plant Community
- 5. Terrapene carolina Eastern Box Turtle, species of concern
- 6. Mixed Mesophytic Forest Plant Community

A Conservation Site is an area deemed by the Natural Heritage Program to be a high quality natural area not currently under formal protection. It may, for example, harbor one or more rare species, be an outstanding example of a plant community or have geologically significant features, etc. These sites may be in private ownership and our listing of them does not imply permission for access.

We are unaware of any geologic features, scenic rivers, state wildlife areas, nature preserves, parks or forests or national wildlife refuges or parks within a one mile radius of the project area.

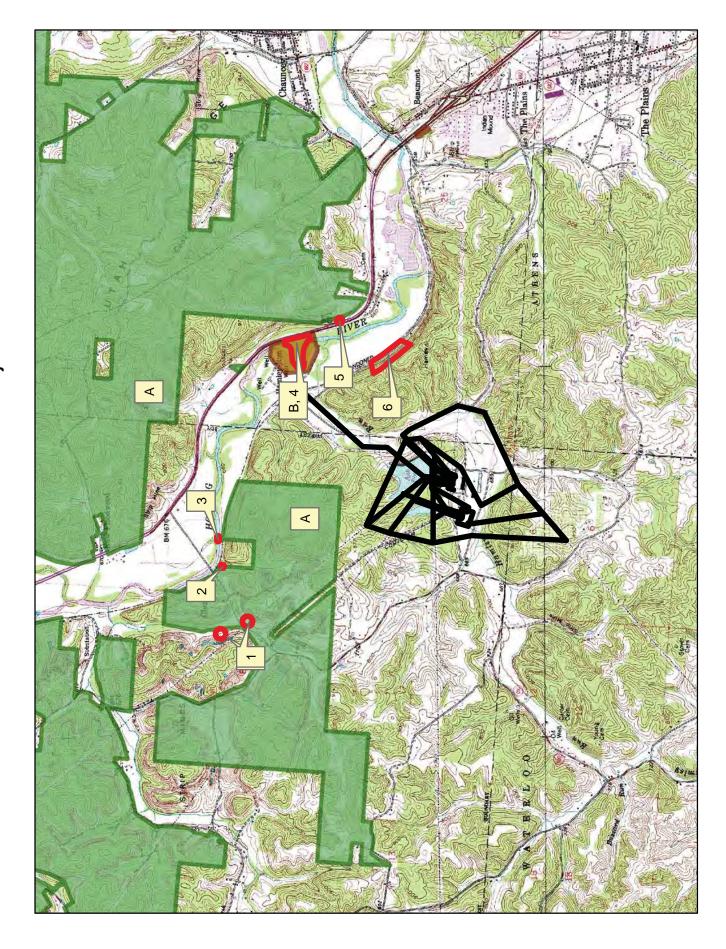
Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does 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.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke Ohio Natural Heritage Program

Debbie Worschhe



Godec, Daniel

From:

susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>

Sent:

Monday, November 28, 2016 11:29 AM

To:

Godec. Daniel

Cc: Subject: nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us Lemaster Electric Transmission Substation Project, Athens Co.



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-0252

Dear Mr. Godec,

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.

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 ≥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.

The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, we recommend that trees ≥3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing

relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees ≥3 inches dbh during the summer roosting season may result in direct take of individuals. 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 tree removal is unavoidable, we recommend that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. Please note that, because Indiana bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.

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

LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

Appendix C Representative Photographs



Wetland and Waterbody Photographs





Photo Location 1. View of Wetland 1. Photograph taken facing east.



Photo Location 1. View of Wetland 1. Photograph taken facing north.





Photo Location 2. View of Wetland 2. Photograph taken facing north.



Photo Location 2. View of Wetland 2. Photograph taken facing south.





Photo Location 3. Representative view of upland drainage feature. Photograph taken facing southwest.



Photo Location 4. View of Wetland 3. Photograph taken facing southwest.





Photo Location 4. View of Wetland 3. Photograph taken facing north.

Habitat Photographs







Photo Location 1. Representative view of old field habitat. Photograph taken facing south.



Photo Location 2. Representative view of old field habitat. Photograph taken facing northeast.





Photo Location 2. Representative view of old field habitat. Photograph taken facing east.



Photo Location 3. Representative view of old field habitat within existing right-of-way.

Photograph taken facing west.





Photo Location 3. Representative view of mixed early successional/second growth deciduous/coniferous forest habitat. Photograph taken facing southwest.



Photo Location 4. Representative view of industrial habitat. Photograph taken facing south.

LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

Appendix D Data Forms

D.1 WETLAND DETERMINATION DATA FORMS





J 31	antec			DETERMINATION DATA F Mountains and Piedmont Regi	•				Page 1 or :
Applicant: A Investigator #1: A	American Electric Power Aaron Kwolek			Jody Nicholson	193704783	Date: County: State:	11/08/ Athens Ohio	8	
Landform: Display Slope (%): 4			ngitude:	NWI/WWI Classification Concave -82.17949063	Datum: NAD83 ✓ Yes 🗆 No	Wetland ID: Sample Point: Community ID: Section:		10 1	
Are Vegetation□	, Soil □ , or Hydrology , Soil □ , or Hydrology	significantly disturbed? naturally problematic?	ear: (II IIO,	Are normal circumsta		Township: Range:	12N 15W	Dir:	
Hydrophytic Vege Wetland Hydrolog Remarks:	etation Present?	∵ Yes ☑ Yes	□ No		Hydric Soils Present? Is This Sampling Point	Within A Wetl			□ No ■ No
Primary:	`	here if indicators are not pre): _□	Secondary:	B6 - Surface So			0. (
□ A □ A □ B	A1 - Surface Water A2 - High Water Table A3 - Saturation B1 - Water Marks B2 - Sediment Deposits		B13 - Aqı B14 - Tru C1 - Hydr	er-Stained Leaves uatic Fauna ie Aquatic Plants rogen Sulfide Odor lized Rhizospheres on Living Roots	0 0 0 0	B8 - Sparsely Vo B10 - Drainage B16 - Moss Trir C2 - Dry Seaso C8 - Crayfish B	Patterns n Lines n Water	;	S ипасе

A2 - High Water Table A3 - Saturation B1 - Water Marks B2 - Sediment Deposits B3 - Drift Deposits B4 - Algal Mat or Crust B5 - Iron Deposits B7 - Inundation Visible on Aerial Imagery	B13 - Aquatic Patina B14 - True Aquatic Plants C1 - Hydrogen Sulfide Odor C3 - Oxidized Rhizospheres on Living Roots C4 - Presence of Reduced Iron C6 - Recent Iron Reduction in Tilled Soils C7 - Thin Muck Surface Other (Explain in Remarks)	B10 - Moss Trim Lines B16 - Moss Trim Lines C2 - Dry Season Water Table C8 - Crayfish Burrows C9 - Saturation Visible on Aerial Imagery D1 - Stunted or Stressed Plants D2 - Geomorphic Position D3 - Shallow Aquitard D4 - Microtopographic Relief D5 - FAC-Neutral Test
Field Observations: Surface Water Present?	3 (in.) (in.) (in.)	Wetland Hydrology Present? ☑ Yes ☐ No
Describe Recorded Data (stream gauge, monitoring well, aerial programmers) Remarks: No saturation or water table. Water sitting o	77	N/A

00.20													
Map Unit Nam	e:	Water		Series Drainage Class:									
Taxonomy (Su	ibgroup):												
Profile Descri	ption (Describe to	the depth needed to document the in	dicator or confirm the abs	sence of indicato	rs.) (Type: C=C	oncentration, D=I	Depletion, RM=Reduced Matrix, CS=Covered/	Coated Sand Grains; Loc	ation: PL=Pore Lining	g, M=Matrix)			
Top	Bottom			Matrix				Mottles			Texture		
Depth	Depth	Horizon	Color (N	loist)	%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)		
0	12	1	10YR	5/1	90	10YR	6/8	5	С	M	clay		
						5YR	5/4	5	С	M	clay		

NRCS Hydric Soil Field Indicators (check	here if i	indicators are not	t present):				Indicato	rs for Problematic Soils	, 1
□ A1- Histosol	□ S5 - S	Sandy Redox	ш	F12 - Iron-Manganes	e Masses (LRR N, I	MLRA 136)	_ A10 - 2	2cm Muck (MLRA 147)	
☐ A2 - Histic Epipedon	□ S6 - 5	Stripped Matrix		☐ F13 - Umbric Surface	(MLRA 122, 136)	Į.	△ A16 - C	Coast Prairie Redox (MLRA 147, 1	148)
☐ A3 - Black Histic	□ S7 - [Dark Surface		F19 - Piedmont Flood	dplain Soils (MLRA	148)	F19 - Pie	edmont Floodplain Soils (MLRA	136, 147)
□ A4 - Hydrogen Sulfide	□ S8 - F	Polyvalue Below Dar	rk Surface (MLRA 147, 1-	48)			☐ TF12 -	Very Shallow Dark Surface	ce
□ A5 - Stratified Layers	□ S9 - 7	Thin Dark Surface (M	/ILRA 147, 148)	F21 - Red Parent Ma	terial (MLRA 127, 147) [Other ((Explain in Remarks)	
☐ A10 - 2 cm Muck (LRR N)	□ F2 - l	Loamy Gleyed Matrix	X			ı	_		
□ A11 - Depleted Below Dark Surface	☑ F3 - D	Depleted Matirx							
□ A12 - Thick Dark Surface	□ F6 - F	Redox Dark Surface	;						
□ S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148)	□ F7 - C	Depleted Dark Surfa	ice						
☐ S4 - Sandy Gleyed Matrix	F8 - F	Redox Depressions			1 Indicators of hydrophyt	ic vegetation and	wetland hydrology	must be present, unless disturbed or p	oroblematic.
Restrictive Layer (If Observed) Type: Rock		Depth:	12"		Hydric Soil F	Present?		Yes No	

Remarks: Fill material used to cap fly ash landfill

Sample Point: SP-1



Species Name

Project/Site: Lemaster-West Lancaster 138 kV Transmission Line Relocation Proje

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 1

Eastern Mountains and Piedmont Region

% Cover Dominant Ind.Status Dominance Test Worksheet

2.					Number of Dominant Species that are OBL, FACW, or FAC: (A)
3.					
4.					Total Number of Dominant Species Across All Strata:6 (B)
5.					
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)
7.					· · · · · · · · · · · · · · · · · · ·
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					
10.					OBL spp. 65
	Total Cover =	0			FACW spp. 55 x 2 = 110
					FAC spp. 25 x 3 = 75
	tratum (Plot size: 15 ft radius)				FACU spp. 5 x 4 = 20
1.					UPL spp. $0 x 5 = 0$
2.					
3.					Total 150 (A) 270 (B)
4.					
5.					Prevalence Index = B/A = 1.800
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Voc. No. Dominance Test is > 50%
10.	Total Cover =	0			M 🗆
	i otal Cover =	U			Yes No Prevalence Index is ≤ 3.0 *
					Yes No Morphological Adaptations (Explain) *
	Plot size: 5 ft radius)				Yes ✓ No Problem Hydrophytic Vegetation (Explain) *
1.	Typha latifolia	20	Υ	OBL	
2.	Juncus effusus	30	Υ	FACW	present, unless disturbed or problematic.
3.	Verbena urticifolia	10	N	FAC	present, unless disturbed of problematic.
4.	Carex frankii	5	Υ	FACW	Definitions of Vegetation Strata:
5.	Carex lacustris	15	Υ	OBL	,
6	Eupatorium perfoliatum	15	N	FACW	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	Ageratina altissima	5	Y	FACU	breast height (DBH), regardless of height.
8.	Carex vulpinoidea	5	N	OBL	
9.				FACW	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
	Symphyotrichum lateriflorum	5	N		ft. tall.
10.	Eupatorium serotinum	15	N	FAC	
11.	Scirpus atrovirens	25	Y	OBL	
12.					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
13.					and woody plants less than 5.20 ft. tail.
14.					
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	150			
	. 3.0. 30101 –				
ondy Vina Str	atum (Plot size: 30 ft radius)				
1.	atum (Flot Size. 30 It radius)				
2.					
3.					Hydrophytic Vegetation Present Veg
					Hydrophytic Vegetation Present Yes No
4.					
5.					
	Total Cover =	0			
emarks:					
dditional D					
dditional Re	emarks:				
dditional R	emarks:				
dditional Ro	emarks:				
lditional Ro	emarks:				



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Are Vegetation Are Vegetation SUMMARY OF Hydrophytic Veg Wetland Hydrol Remarks:	American B Aaron Kwo Water Terrace 4% Irologic cond 1 , Soil 0 , 2 , Soil 0 , FINDINGS getation Pre	Latitude: ditions on the site tylor or Hydrology □ sig or Hydrology □ nat	39.38608843230 Dical for this	Locolocitime of y turbed? matic?	gator #2: al Relief: ongitude:	Jody Nin N Concav -82.179 explain in r	cholson IWI/WWI Classification: e 25777 emarks) Are normal circumsta	Datum: Yes □ nces present? No Hydric Soils	Present?	Date: County: State: Wetland ID: Sample Point: Community ID: Section: Township: Range:	SP-2 UPL 1 12N 15W Dir:
Primary:	A1 - Surface A2 - High Wa A3 - Saturati B1 - Water N B2 - Sedimer B3 - Drift Der B4 - Algal Ma B5 - Iron Der B7 - Inundati	ater Table on Marks ot Deposits posits at or Crust			B9 - Wate B13 - Aqu B14 - Tru C1 - Hydr C3 - Oxid C4 - Pres	uatic Faun e Aquatic ogen Sulfi ized Rhizo ence of R ent Iron Re Muck Sur	a Plants de Odor sspheres on Living Roots educed Iron duction in Tilled Soils face			B10 - Drainage B16 - Moss Trin C2 - Dry Seasor C8 - Crayfish Bu C9 - Saturation	egetated Concave Surface Patterns n Lines n Water Table urrows Visible on Aerial Imagery Stressed Plants ic Position uitard graphic Relief
Field Observat Surface Water I Water Table Pre Saturation Pres Describe Record	Present? esent? ent? ed Data (str	Yes No Yes No Yes No No No amagauge, monitoring		photos, p				Wetland Hyd	drology Pr	esent? \Box	Yes ☑ No
Remarks:	No saturati	on or water table. V	Vater sitting	on top of	imperme	eable cla	/.				
SOILS		Mate:					Ossisa Da	-i			
Map Unit Name		Water					Selles Dia	ainage Class:			
	aroup).				rs.) (Type: C=Co	oncentration. D=I		Coated Sand Grains: Loca	ation: PL=Pore Lining	, M=Matrix)	
Taxonomy (Sub		the depth needed to document the inc	licator or confirm the abs	sence of indicato			Depletion, RM=Reduced Matrix, CS=Covered/				
Taxonomy (Sub		the depth needed to document the inc		sence of indicato Matrix	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Mottles			Texture
Taxonomy (Sub Profile Descrip	tion (Describe to	the depth needed to document the inc		Matrix	%				Туре	Location	Texture (e.g. clay, sand, loam)
Taxonomy (Sub Profile Descrip Top	Bottom			Matrix		10YR		Mottles		•	
Taxonomy (Sub Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 16 16	Horizon	Color (M 10YR 10YR	Matrix loist) 4/4 5/1	% 35 35	10YR 5Y	Color (Moist) 6/8 7/4	Mottles % 10 10	Type C C	Location M M	(e.g. clay, sand, loam) clay loam clay loam
Taxonomy (Sub Profile Descrip Top Depth 0	Bottom Depth 16	Horizon 1 1	Color (N 10YR 10YR	Matrix Noist) 4/4 5/1	% 35 35 	10YR 5Y 5YR	Color (Moist) 6/8 7/4 5/4	% 10 10 10	Type C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Taxonomy (Sub Profile Descrip Top Depth 0	Bottom Depth 16 16	Horizon 1 1	Color (M 10YR 10YR 	Matrix Moist) 4/4 5/1 	% 35 35 	10YR 5Y 5YR 	Color (Moist) 6/8 7/4 5/4	% 10 10 10	Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam clay loam
Taxonomy (Sub Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 16 16	Horizon 1 1	Color (M 10YR 10YR 	Matrix Noist) 4/4 5/1	% 35 35 	10YR 5Y 5YR	Color (Moist) 6/8 7/4 5/4	Wottles % 10 10 10	Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Taxonomy (Sub Profile Descrip Top Depth 0	bottom (Describe to Bottom Depth 16 16	Horizon 1 1	Color (M 10YR 10YR 	Matrix floist) 4/4 5/1	% 35 35 	10YR 5Y 5YR 	Color (Moist) 6/8 7/4 5/4	Wottles % 10 10 10	Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Taxonomy (Sub Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 16 16	Horizon 1 1	Color (M 10YR 10YR 	Matrix Noist) 4/4 5/1	% 35 35 	10YR 5Y 5YR	Color (Moist) 6/8 7/4 5/4	Wottles % 10 10 10	Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam clay loam
Taxonomy (Sub Profile Descrip Top Depth 0	bottom (Describe to Bottom Depth 16 16 Soil Field In Bedon Coulfide ayers & K (LRR N) Below Dark S & Surface k Mineral (LRR yed Matrix Type:	Horizon 1 1 ndicators (check he	Color (N 10YR 10YR 10YR	Matrix (loist) 4/4 5/1 rs are no dox Matrix face Below Dat Surface (leyed Matrix Matrix ark Surface Dark Surface Depressions Depth:	% 35 35 st present	10YR 5Y 5YR	Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Wottles	Type C C C MLRA 136) 148) C Titic vegetation and w	Location M M M Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmont TF12 - Very Other (Expla	(e.g. clay, sand, loam) clay loam clay loam clay loam

Sample Point: SP-2



Species Name

Project/Site: Lemaster-West Lancaster 138 kV Transmission Line Relocation Proje

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 1

Eastern Mountains and Piedmont Region

% Cover Dominant Ind.Status Dominance Test Worksheet

2.					Number of Dominant Species that are OBL, FACW, or FAC:(A)
3.					
4.					Total Number of Dominant Species Across All Strata: (B)
5.					
6.					Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
7.					
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 0 x 1 = 0
1	Total Cover	= 0			FACW spp. 2 X 2 = 4
					FAC spp. 25 x 3 = 75
	Stratum (Plot size: 15 ft radius)				FACU spp. 83
1.					UPL spp 0
2.					
3.					Total 110 (A) 411 (B)
4.					5
5.					Prevalence Index = B/A = 3.736
6.					
7.					Hydrophytic Verstation Indicators
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.		0			Yes No Dominance Test is > 50%
	Total Cover	= 0			Yes No Prevalence Index is ≤ 3.0 *
Hart Court of the	District. Est andian				Yes No Morphological Adaptations (Explain) *
	Plot size: 5 ft radius) Trifolium pratense	15	Υ	FACU	Yes No Problem Hydrophytic Vegetation (Explain) *
1. 2.		15	Y	FACU	* Indebators of hydric soil and wetland hydrology must be
3.	Medicago lupulina	30	Y	FACU	present, unless disturbed or problematic.
3. 4.	Schedonorus arundinaceus	2	N Y	FACU	Definitions of Vegetation Strata:
5.	Vernonia gigantea Lactuca canadensis	3	N	FACU	Definitions of Vegetation Strata.
6		10	N	UPL	Tree - West
7.	Daucus carota Desmodium canadense	10	N	FAC	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
8.	Euthamia graminifolia	10	N	FAC	27535. Holgin (DBT), Togaraiosa at Holgin.
9.	Quercus imbricaria	5	N	FAC	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.	Trifolium repens	5 5	N	FACU	ft. tall.
11.	Solidago altissima	5 15	N	FACU	
12.	Solidago alussima 				Herb - All herbaceous (non-woody) plants, regardless of size,
13.					and woody plants less than 3.28 ft. tall.
14.					
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
15.					YYOOGY VIIIes - / III WOOGY VIIIos groater than 5.25 to iii lieigite
1	Total Cover	= 120			
Woody Vine Str	ratum (Plot size: 30 ft radius)				
1.	atum (Plot size. 30 it radius)				
2.					
3.					Hydrophytic Vegetation Present Yes No
4.					Try at opiny at a togetation i 1000 int 1000 int
5.					
<u> </u>	Total Cover	· = 0			
Remarks:	10.01 00001				
Additional R	emarks:				
, additional K	omand.				
1					
1					



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Wetland Hydrology Indicators (Check here if indicators are not present 1): Secondary Pinnary 1 - Surface Water B6 - Surface Soil Cracks B7 - Mark Mark B8 - Surface Soil Cracks B8 - Surface So	0					Eastern	Mountai	ns and Piedmont Reg	ion			
Solid Milit Filtowill sit loam, 0 to 3 percent slopes	Applicant:	American E	Electric Power	kV Transmis				,	193704783	1	County:	Athens
Landlorm:					Invest	igator #2:			. Nana			
Sippe (%): 4% Laitude 2018 20			loam, 0 to 3 percer	nt slopes	Loc	al Paliaf			i: None			
Are climationlydrologic conditions on the site bytical for this time of year? In an expanse inservation is all year. And the Are Vegelation of Soil I., or Hydrology I institutally problematic? Are Vegelation (Soil I.) or Hydrology I institutally problematic? Are Vegelation (Soil I.) or Hydrology Indicators (Problematic) By Yes No Hydrology Indicators (Check here if indicators are not present) By Yes No Hydrology Indicators (Check here if indicators are not present) BY Weelland Hydrology Indicators (Check here if indicators are not present) BY Sections (Problematics Surface Soil Cracks Indicators are not present) BY Sections (Problematics Surface Soil Cracks Indicators are not present) BY Sections (Problematics Surface Soil Cracks Indicators Ind			Latitudo	00 00004744540					Datum:	NVD83		
Are vegetation of Soil or Hydrology significantly disturbed? Are normal circumstances present? Township: 12N Range. 12N District SUMMARY OF FINDINGS Hydrophytic Vegetation Present? g Yes No Hydric Soils Present? Yes No No Hydrophytic Vegetation Present? Yes No No No Hydrophytic Vegetation Present? Yes No No No No Hydrophytic Vegetation Present? Yes No No No Hydrophytic Vegetation Present? Yes No No No Hydrophytic Vegetation Present? Yes No No Hydrophytic Vegetation Present Yes												
Are Vegetations Soil or Hydrology naturally problematic? a Yes No Range: 15W Dir - SUMMARY OF IRSMININGS No Hydric Soils Present? 2 Yes No Hydric Soils Present? yes No Is This Sampling Point Within A Welland? Yes No No Is This Sampling Point Within A Welland? Yes No Is Th				•		- Car : (11 110	CAPIGITITI				-1	
SUMMARY OF FINDINGS Wetland Hydrology Present?									•			
Hydropytic Vegetation Present?			or rejurency) La mer	and product							· idinigui	
Wetland Hydrology Present? Yes No No No No No No No N			sent?		□ Yes	□ No)		Hydric Soils	Present?		✓ Yes □ No
Wetland Hydrology Indicators (Check here if indicators are not present 1-1					☑ Yes	No)				Within A Wetla	and? Yes No
Wetland Hydrology Indicators (Check here if indicators are not present)												
Wetland Hydrology Indicators (Check here if indicators are not present)												
Primary A1 - Surface Water B8 - Water-Stained Leaves B8 - Surface Soli Cracks B10 - Drawing Patterns B10 - Dr	HYDROLOGY											
Primary A1 - Surface Water B8 - Water-Stained Leaves B8 - Surface Soli Cracks B10 - Drawing Patterns B10 - Dr	Wetland Hydro	ology Indic	ators (Check here	f indicators a	re not pr	esent):_			Secondary:		
A1 - Surface Water Toble B1 - Arright Water Toble B1 - Arright State To Crist			atoro (orroon moro	i indicatoro d	iio iiot pi	000111	/·U					oil Cracks
A 3 - Saturation Vision Materials B1 - Water Marks						B9 - Wate	er-Stained	Leaves		_	B8 - Sparsely Ve	
B1 - Water Marks C1 - Hydrogen Sulfide Odor C2 - Dry Season Water Table C3 - Oxidated Rhizospheres on Living Roots C3 - Oxidated Rhizospheres on Living Roots C3 - Coxidated Rhizospheres C3 - Cox	_									_		
B2 - Sediment Deposits C3 - Oxidized Ritizospheres on Living Roots G3 - Oxidized Ritizospheres on Living Roots G3 - Startator Visible on Aerial Imagery G4 - Presence of Reduced fron D1 - Sturried or Stressed Plants G4 - Presence of Reduced fron D1 - Sturried or Stressed Plants G4 - Recent fron Reduction in Tilled Soils D1 - Sturried or Stressed Plants G3 - Startator Visible on Aerial Imagery G4 - Recent fron Reduction in Tilled Soils D1 - Sturried or Stressed Plants D2 - Geomorphic Position D2 - Geomorphic Position D3 - Shallow Aquitator D4 - Shallow Aquitat					_					_		
B3 - Ont Deposits C4 - Presence of Reduced fron G9 - Saturation Visible on Aerial Imagery G6 - Recent fron Reducidon in Tilled Soils D1 - Sturder of Stressed Plank Agulard or Stressed Plank Agulard or Stressed Plank Agulard D2 - Geomorphic Position D3 - Shallway Agulard D3 - Shallway Agulard D3 - Shallway Agulard D4 - Microtopographic Relief D5 - FAC-Neutral Test D5 - FAC-Neutral Test D6 - FAC-Neutral Test D6 - FAC-Neutral Test D7 - FAC-Neutral Test D8	_				_							
85 - Iron Deposits C7 - Thin Murck Surface D2 - Geomorphic Position D3 - Geomorphic Position D4 - Microtopographic Relief D5 - FAC-Neutral Test					_							
B7 - Inundation Visible on Aerial Imagery Other (Explain in Remarks) 2												
Field Observations: Surface Water Present?				2001						_		
Field Observations: Surface Water Present?		b/ - munuau	on visible on Aeriai ima	agery		Other (Ex	cpiain in Ke	emarks)				
Surface Water Present?												
Water Table Present? ves ves No Depth: (in.) vestiand hydrology Present / ves No Depth: (in.) vestiand hydrology Present / ves	Field Observat	ions:										
Water Table Present? ves ves No Depth: (in.) vestiand hydrology Present / ves No Depth: (in.) vestiand hydrology Present / ves	Surface Water	Present?	□ Yes □ No	Depth:		(in.)			M (1 111		10	N/ NI
Saturation Present?						, ,			Wetland Hy	drology Pr	resent?	Yes No
Remarks: Soil S Map Unit Name: Fitchvill silt loam, 0 to 3 percent slopes Series Drainage Class: Somewhat poorly drained	Saturation Pres	ent?		Depth:		(in.)						
Remarks: Soil S Map Unit Name: Fitchvill silt loam, 0 to 3 percent slopes Series Drainage Class: Somewhat poorly drained	Describe Record	ed Data (str	eam gauge monitori	ng well aerial	nhotos r	orevious i	nspection	l if available:		N/A		
SOILS Map Unit Name: Fitchvill slit loam, 0 to 3 percent slopes	L	oa Data (oti	oam gaago, momon	ing won, aonai	priotoo, į	provious	Поробион	oj, ii avaliabio.				
Map Unit Name: Fitchvill silt loam, 0 to 3 percent slopes	Tremants.											
Map Unit Name: Fitchvill silt loam, 0 to 3 percent slopes	SOILS											
Taxonomy (Subgroup):		:	Fitchvill silt loam, 0	to 3 percent	slopes			Series D	rainage Class:	Somewha	t poorly draine	ed
Top Bottom Depth Horizon Color (Moist) % Color (Moist) % Type Location (e.g. clay, sand, loam)	Taxonomy (Sub		,									
Depth Depth Horizon Color (Moist) % Color (Moist) % Type Location (e.g. clay, sand, loam)	Profile Descrip	tion (Describe to	the depth needed to document the in	dicator or confirm the abs	sence of indicato	ors.) (Type: C=C	oncentration, D=	Depletion, RM=Reduced Matrix, CS=Covered	d/Coated Sand Grains; Loc	ation: PL=Pore Lining	g, M=Matrix)	
10	Тор	Bottom			Matrix				Mottles			Texture
NRCS Hydric Soil Field Indicators (check here if indicators are not present) A2 - Histosco A3 - Black Histoc A4 - Hydrogen Sulfide A5 - Stratified Layers A10 - 2 cm Muck (uRRA) A11 - Depleted Below Dark Surface A11 - Depleted Below Dark Surface A12 - Thick Dark Surface A12 - Thick Dark Surface A12 - Thick Dark Surface A13 - Sandy Muck Mineral (uRR N, MLRA 147, 148) A14 - Depleted Below Dark Surface S1 - Sandy Gleyed Matrix A15 - Coast Aurface S1 - Sandy Muck Mineral (uRR N, MLRA 147, 148) A16 - Coast Prairie Redox Dark Surface S1 - Sandy Muck Mineral (uRR N, MLRA 147, 148) A17 - Popleted Below Dark Surface S1 - Sandy Muck Mineral (uRR N, MLRA 147, 148) A18 - Coast Prairie Redox Dark Surface S1 - Sandy Muck Mineral (uRR N, MLRA 147, 148) A19 - Piedmont Floodplain Soils (MLRA 147, 148) A10 - 2 cm Muck (uRRA 147, 148) B10 - Very Shallow Dark Surface A11 - Popleted Below Dark Surface A12 - Thick Dark Surface B1 - Sandy Muck Mineral (uRR N, MLRA 147, 148) B1 - Very Shallow Dark Surface B1 - Sandy Muck Mineral (uRRA 147, 148) B1 - Very Shallow Dark Surface B1 - Sandy Muck Mineral (uRRA 147, 148) B1 - Very Shallow Dark Surface B1 - Sandy Muck Mineral (uRRA 147, 148) B1 - Very Shallow Dark Surface B1 - Sandy Muck Mineral (uRRA 147, 148) B1 - Very Shallow Dark Surface B1 - Sandy Muck Mineral (uRRA 147, 148) B1 - Very Shallow Dark Surface B1 - Redox Dark Surface B1 - Very Shallow Dark Surface B1 - Very Shallow Dark Surface B1 - Redox Dark Surface B1 - Very Shal	Depth	Depth	Horizon	Color (N	loist)	%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
NRCS Hydric Soil Field Indicators (check here if indicators are not present 1-1	0	10	1	10YR	4/2	90	10YR	6/8	10	С	M	silt loam
NRCS Hydric Soil Field Indicators (check here if indicators are not present A1- Histosol												
NRCS Hydric Soil Field Indicators (check here if indicators are not present A1 - Histosol A2 - Histic Epipedon A3 - Black Histic A4 - Hydrogen Sulfide A5 - Stratified Layers A10 - 2 cm Muck (LRR N) A10 - 2 cm Muck (MLRA 147, 148) B13 - Umbric Surface (MLRA 122, 136) B14 - Piedmont Floodplain Soils (MLRA 148) B15 - Piedmont Floodplain Soils (MLRA 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 127, 147) B17 - Red Parent Material (MLRA 127, 147) B18 - Redox Dark Surface B1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) B19 - Piedmont Floodplain Soils (MLRA 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 148) B17 - Piedmont Floodplain Soils (MLRA 148) B17 - Piedmont Floodplain Soils (MLRA 147, 148) B17 - Piedmont Floodplain Soils (MLRA 148) B19 - Piedmont Floodplain Soils (MLRA 147, 148) B19 - Piedmont Floo												
NRCS Hydric Soil Field Indicators (check here if indicators are not present A1 - Histosol A2 - Histic Epipedon A3 - Black Histic A5 - Stratified Layers A10 - 2cm Muck (LRR N) F19 - Piedmont Floodplain Soils (MLRA 147, 148) F19 - Piedmont Floodplain Soils (MLRA 147, 148) F10 - Red Parent Material (MLRA 127, 147) T10 - Red Parent Material (MLRA 127, 147) T11 - Red Pa												
NRCS Hydric Soil Field Indicators (check here if indicators are not present A1 - Histosol A2 - Histic Epipedon A3 - Black Histic A4 - Hydrogen Sulfide A5 - Stratified Layers A10 - 2 cm Muck (MRR N) A11 - Depleted Below Dark Surface A12 - Thick Dark Surface A13 - Depleted Matrix A14 - Thick Dark Surface A15 - Stratified (MRR N) A16 - Coast Prairie Redox (MLRA 147, 148) B19 - Piedmont Floodplain Soils (MLRA 147, 148) B19 - Piedmont Floodplain Soils (MLRA 147, 148) B19 - Piedmont Floodplain Soils (MLRA 147, 148) B19 - P												
NRCS Hydric Soil Field Indicators (check here if indicators are not present A1 - Histosol A2 - Histic Epipedon A3 - Black Histic A4 - Hydrogen Sulfide A5 - Straftified Layers A10 - 2 cm Muck (MLRA 147, 148) A10 - 2 cm Muck (MLRA 148) F19 - Piedmont Floodplain Soils (MLRA 148)												
NRCS Hydric Soil Field Indicators (check here if indicators are not present 1												
A1- Histosol S5 - Sandy Redox F12 - Iron-Manganese Masses (LRR N, MLRA 136) A10 - 2cm Muck (MLRA 147, 148) A16 - Coast Prairie Redox (MLRA 147, 148) F13 - Umbric Surface (MLRA 122, 136) A16 - Coast Prairie Redox (MLRA 147, 148) F19 - Piedmont Floodplain Soils (MLRA 147, 148) F19 - Piedmont Floodplai			-									
A1- Histosol S5 - Sandy Redox F12 - Iron-Manganese Masses (LRR N, MLRA 136) A10 - 2cm Muck (MLRA 147, 148) A16 - Coast Prairie Redox (MLRA 147, 148) F13 - Umbric Surface (MLRA 122, 136) A16 - Coast Prairie Redox (MLRA 147, 148) F19 - Piedmont Floodplain Soils (MLRA 147, 148) F19 - Piedmont Floodplai	NRCS Hydric	Soil Field In	ndicators (check he	ere if indicato	rs are no	ot presen	t):	•	•	•	Indicators fo	r Problematic Soils 1
A3 - Black Histic S7 - Dark Surface F19 - Piedmont Floodplain Soils (MLRA 148) F19 - Piedmont Floodplain	☐ A1- Histosol						′ 🗖	F12 - Iron-Mangane	se Masses (LRR N,	MLRA 136)	A10 - 2cm N	
A4 - Hydrogen Sulfide S8 - Polyvalue Below Dark Surface (MLRA 147, 148) F21 - Red Parent Material (MLRA 127, 147) Other (Explain in Remarks) A10 - 2 cm Muck (LRR N) F2 - Loamy Gleyed Matrix F3 - Depleted Below Dark Surface F3 - Depleted Matirx F3 - Sandy Muck Mineral (LRR N, MLRA 147, 148) F7 - Depleted Dark Surface F8 - Redox Depressions Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If Observed) Type: Rock Depth: 10" Hydric Soil Present? Yes No											TIO - COASI F	
A5 - Stratified Layers S9 - Thin Dark Surface (MLRA 147, 148) F21 - Red Parent Material (MLRA 127, 147) Other (Explain in Remarks) A10 - 2 cm Muck (LRR N) F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A12 - Thick Dark Surface F6 - Redox Dark Surface F7 - Depleted Dark Surface S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) F7 - Depleted Dark Surface S4 - Sandy Gleyed Matrix F8 - Redox Depressions Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If Observed) Type: Rock Depth: 10" Hydric Soil Present? Yes No									odplain Soils (MLRA		_ 113-1160111011	
A10 - 2 cm Muck (LRR N)									aterial August 407 44	-	_ 11 12 7 7 61 9	
A11 - Depleted Below Dark Surface							')	D 121- Ked raielik W	ateriai (WERA 127, 14			alli ili iXelliaiks)
S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) F7 - Depleted Dark Surface S4 - Sandy Gleyed Matrix F8 - Redox Depressions Restrictive Layer (ff Observed) Type: Rock Depth: 10" Hydric Soil Present? Yes No												
S4 - Sandy Gleyed Matrix F8 - Redox Depressions ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If Observed) Type: Rock Depth: 10" Hydric Soil Present? Yes No	☐ A12 - Thick Dar	k Surface		F6 - Redox Da	ark Surfac							
Restrictive Layer (If Observed) Type: Rock Depth: 10" Hydric Soil Present? Yes No			N, MLRA 147, 148)						4			
(If Observed) Type: Rock Depth: 10" Hydric Soil Present? Yes No		red iviatřix	<u> </u>	ro - kedox De	epressions	•			Indicators of hydrophy	ric vegetation and v	wetiand hydrology must be	e present, unless disturbed or problematic.
		Type:	Rock		Depth:	10"			Hydric Soil	Present?		Yes No
· · · · · · · · · · · · · · · · · · ·	<u> </u>											

Sample Point: SP-3



Project/Site: Lemaster-West Lancaster 138 kV Transmission Line Relocation Proje

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 2

Eastern Mountains and Piedmont Region

VEGETATION	Species identified in all upperca Plot size: 30 ft radius)	ase are non-native	species.)			
Tree Stratum (F	Species Name		% Cover Do	minant	Ind.Status	Dominance Test Worksheet
1.			70 00VCI DC			Definition to the free free free free free free free fr
2.						Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
3.						· ,· ,· ,· ,· ,· ,· ,· ,· ,
4.						Total Number of Dominant Species Across All Strata: 1 (B)
5.						
6.						Percent of Dominant Species That Are OBL, FACW, or FAC:00.0%_ (A/B)
7.						
8.						Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.		T / 10				OBL spp. 80
		Total Cover =	= 0			FACW spp. 30
Capling/Chruh C	tratum (Plot size: 15 ft radius)					FAC spp. 0 x 3 = 0 FACU spp. 0 x 4 = 0
1.	(Plot Size. 15 it radius)					UPL spp. 0 X 5 = 0
2.						от E зpp х о
3.						Total 110 (A) 140 (B)
4.						· · · · · · · · · · · · · · · · · · ·
5.						Prevalence Index = B/A = 73
6.						
7.						
8.						Hydrophytic Vegetation Indicators:
9.						Yes No Rapid Test for Hydrophytic Vegetation
10.		T / 10				Yes No Dominance Test is > 50%
		Total Cover =	= 0			Yes No Prevalence Index is ≤ 3.0 *
						Yes No Morphological Adaptations (Explain) *
Herb Stratum (P	Plot size: 5 ft radius) T pha glauca		70	Υ	OBL	Yes No Problem Hydrophytic Vegetation (Explain) *
2.	halaris arundinacea		20	N	FACW	
3.	ngelica atropurpurea		5	N	OBL	present, unless disturbed or problematic.
4.	osa palustris		5	N	FACW	Definitions of Vegetation Strata:
5.	Solidago gigantea		5	N	FACW	
6	Scirpus atro irens		5	N	OBL	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.						breast height (DBH), regardless of height.
8.						
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.						it. tali.
11.						
12.						Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
13.						
14. 15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
15.		Total Cayor				Woody Vines - All woody vines greater than 5.20 ft. if fleight.
1		Total Cover =	110			
Woody Vine Stra	atum (Plot size: 30 ft radius)					
1.	Other actions					
2.						
3.						Hydrophytic Vegetation Present Yes No
4.						
5.						☑ □
D		Total Cover =	= 0			
Remarks:						
Additional D	omarke:					
Additional Re	emarks:					
1						
1						



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Project/Site:		West Lancaster 138	kV Transmis	ssion Lin	e Reloca	tion Proje	Stantec Project #:	193704783		Date:	11/07/16
Applicant:		Electric Power								County:	Athens
Investigator #1:			at alama	Investi	gator #2:			Mana		State:	Ohio
Soil Unit: Landform:	Fitchville s	ilt loam, 0 to 3 perce	ent siops		al Daliati		IWI/WWI Classification:	None		Wetland ID:	
Slope (%):	4%	Latituda	39.38319645410		al Relief: ongitude:		26061	Dotum:	NAD83	Sample Point: Community ID:	
Are climatic/hyc	drologic con	ditions on the site ty	39.38319645410	time of v	origitude.	-02.100	2000 I	✓ Yes □		Section:	1
		or Hydrology □ sig			car: (II III	, explain in i	Are normal circumsta		_	Township:	12N
Are Vegetation	B Soil B	or Hydrology nat	urally proble	matic?			✓ Yes	□ No		Range:	15W Dir:
SUMMARY OF		or riyarology 🖺 Tial	draily proble	matic:			■ 163	LINO		rtange.	15W Dil
Hydrophytic Ve		sent?		□ Yes	. No	<u> </u>		Hydric Soils	Present?		□ Yes ☑ No
Wetland Hydrol				□ Yes	☑ No	,)				Within A Wetla	
Remarks:	.egy : 1000				<u> </u>			no mio camp	,g . o		
HYDROLOGY											
	ology India	ators (Check here i	f indicators o	ro not nr	ocont	١٠			Casandanu		
Primary:		ators (Check here i	i indicators a	ire not pr	eseni):₪			Secondary:	B6 - Surface Sc	nil Cracks
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves				egetated Concave Surface
	A2 - High W					uatic Faun				B10 - Drainage	
	A3 - Saturati					ie Aquatic				B16 - Moss Trin	
	B1 - Water N					rogen Sulf				C2 - Dry Season	
	B2 - Sedime B3 - Drift De						spheres on Living Roots educed Iron			C8 - Crayfish B	Visible on Aerial Imagery
	B4 - Algal M						duction in Tilled Soils		ä		Stressed Plants
	B5 - Iron De					Muck Sur			_	D2 - Geomorph	
	B7 - Inundati	ion Visible on Aerial Ima	agery		Other (Ex	cplain in Re	emarks)			D3 - Shallow Ac	
										D4 - Microtopog D5 - FAC-Neutr	
Field Observat	tions:									20 1710 110411	ui 1001
		V N-	Danth		(in)						
Surface Water		☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes ⊌ No
Water Table Pr Saturation Pres		☐ Yes ☑ No ☐ Yes ☑ No	Depth: Depth:		(in.) (in.)						
			· .		. ,						
	ded Data (str	eam gauge, monitori	ng well, aerial	photos, p	orevious i	nspection	s), if available:		N/A		
Remarks:											
0.011.0											
SOILS		Fireboll and the second	0.1- 0				Oseilas De	-i	0		
Map Unit Name		Fitchville silt loam,	0 to 3 percer	nt slops			Series Dra	ainage Class:	Somewhat	t poorly draine	d
Map Unit Name Taxonomy (Sub	ogroup):		•								d
Map Unit Name Taxonomy (Sub Profile Descrip	ogroup): otion (Describe to		dicator or confirm the abs	sence of indicato	rs.) (Type: C=C	oncentration, D=	Depletion, RM=Reduced Matrix, CS=Covered/0	Coated Sand Grains; Loc			
Map Unit Name Taxonomy (Sub Profile Descrip Top	ogroup): otion (Describe to Bottom	the depth needed to document the inc	dicator or confirm the abs	sence of indicato		oncentration, D=	Depletion, RM=Reduced Matrix, CS=Covered/t	Coated Sand Grains; Loc	ation: PL=Pore Lining	ı, M=Matrix)	Texture
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	ogroup): otion (Describe to Bottom Depth	the depth needed to document the ind	dicator or confirm the abs	sence of indicato Matrix Moist)	%		pepletion, RM=Reduced Matrix, CS=Covered/Color (Moist)	Coated Sand Grains; Loca Mottles %	ation: PL=Pore Lining	, M=Matrix) Location	Texture (e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth	the depth needed to document the interest of the depth needed to document the document the depth needed to document the docu	Color (M	sence of indicato Matrix Moist) 4/4	% 100		Depletion, RM=Reduced Matrix, CS=Covered/i Color (Moist)	Coated Sand Grains; Local Mottles	ation: PL=Pore Lining Type	, M=Matrix) Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 6	the depth needed to document the inception Horizon	Color (N	sence of indicato Matrix Moist) 4/4	% 100 		Depletion, RM=Reduced Matrix, CS=Coveredii Color (Moist)	Coated Sand Grains; Loc. Wottles %	Type	Location	Texture (e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 6	the depth needed to document the inc Horizon 1	Color (N	sence of indicato Matrix Moist) 4/4	% 100 		Depletion, RM=Reduced Matrix, CS=Coveredition Color (Moist)	Coated Sand Grains; Loc Mottles %	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 6	Horizon 1	Color (N	Matrix Moist) 4/4	% 100 		Depletion, RM=Reduced Matrix, CS=Coveredition Color (Moist)	Coated Sand Grains; Loc. Mottles %	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	pgroup): ption (pescribe to Bottom Depth 6	Horizon 1	Color (N	Matrix Moist) 4/4	% 100 		Depletion, RM=Reduced Matrix, CS=Covered ⁽¹⁾ Color (Moist)	Coated Sand Grains; Loc. Mottles %	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): Dition (Describe to Bottom Depth 6	Horizon 1	Color (N	sence of indicato Matrix Moist) 4/4	% 100 		Depletion, RM=Reduced Matrix, CS=Covered ¹ Color (Moist)	Coated Sand Grains; Loc. Mottles %	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 6	the depth needed to document the in	Color (N	sence of indicato Matrix Moist) 4/4	% 100 		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 6	the depth needed to document the in-	Color (N	Matrix Moist) 4/4	% 100		Depletion, RM=Reduced Matrix, CS=Covered ¹ Color (Moist)	Coated Sand Grains; Loc. Mottles %	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric	ogroup): otion (Describe to Bottom Depth 6	Horizon 1	Color (N 10YR ere if indicato	Matrix Moist) 4/4 -	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 96	Type	Location Indicators for	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol	ogroup): otion (Describe to Depth 6 Soil Field In	Horizon 1 ndicators (check he	Color (M 10YR	Matrix Aoist) 4/4 -	% 100		Color (Moist) F12 - Iron-Manganes	Coated Sand Grains; Loc Wottles %	Type	Location Indicators for	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip	ogroup): otion (Describe to Depth 6 Soil Field Inseedon	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/4 -	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location	Texture (e.g. clay, sand, loam) silt loam r Problematic Soils ¹ Nuck (MLRA 147) Prairie Redox (MLRA 147, 148)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histi	ogroup): otion (Describe to Bottom Depth 6 Soil Field In sedon c	Horizon 1	Color (N 10YR	Matrix Moist) 4/4 -	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location Indicators for A10 - 2cmt M A16 - Coast P F19 - Piedmon	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip	ogroup): otion (Describe to Depth 6 Soil Field Interest of Constitution of Co	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Aoist) 4/4 rs are no edox Matrix face e Below Da	% 100 ty presen		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location	Texture (e.g. clay, sand, loam) silt loam r Problematic Soils ¹ Nuck (MLRA 147) Prairie Redox (MLRA 147, 148)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histit A4 - Hydrogen S	pgroup): ption (Describe to Depth 6 Soil Field In the dedon co Sulfide Layers	Horizon 1	Color (M 10YR ere if indicato \$5 - Sandy Re \$6 - Stripped 1 \$7 - Dark Surf \$8 - Polyvalue	Matrix Aoist) 4/4 -	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2- Histic Epip A3 - Black Histi A4 - Hydrogen 3 A5 - Stratified L A10 - 2 cm Muc A11 - Depleted	egroup): ption (Describe to Bottom Depth 6	Horizon 1	Color (N 10YR	Matrix Moist) 4/4 -	% 100 ot presen		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histit A4 - Hydrogen 3 A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar	pogroup): potion (Describe to Depth 6	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Additive Additive	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6	Type	Location	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1 - Histosol A2 - Histic Epip A3 - Black Histi A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc	pgroup): ption (Describe to Depth 6	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/4 -	% 100 ty presen MLRA 147, 148 ix e eace		Color (Moist)	Coated Sand Grains; Loc Wottles % e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA 127, 144)	Type	Location Location Indicators for A10 - 2cm M A16 - Coast M F19 - Piedmon TF12 - Very Other (Explai	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2- Histic Epip A3- Black Histi A4- Hydrogen S A5- Stratified L A10- 2 cm Muc A11- Depleted A12- Thick Dar S1- Sandy Muc S4- Sandy Gley	pogroup): potion (Describe to Depth 6	the depth needed to document the in-	Color (N 10YR	Matrix Addist Addist	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6 e Masses (LRR N, 6 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	Type MLRA 136) 148) C 7) tic vegetation and w	Location Locati	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1 - Histosol A2 - Histic Epip A3 - Black Histi A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc	pogroup): potion (Describe to Depth 6	Horizon 1	Color (N 10YR	Matrix Moist) 4/4 -	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles % e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA 127, 144)	Type MLRA 136) 148) C 7) tic vegetation and w	Location Locati	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histit A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S1 - Sandy Muc S1 - Sandy Gley Restrictive Layer	pogroup): potion (Describe to Depth 6	the depth needed to document the in-	Color (N 10YR	Matrix Addist Addist	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6 e Masses (LRR N, 6 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	Type MLRA 136) 148) C 7) tic vegetation and w	Location Locati	Texture (e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2- Histic Epip A3- Black Histit A4- Hydrogen S A5- Stratified L A10- 2 cm Muc A11- Depleted A12- Thick Dar S1- Sandy Muc S1- Sandy Muc S1- Sandy Gley Restrictive Layer (If Observed)	pogroup): potion (Describe to Depth 6	the depth needed to document the in-	Color (N 10YR	Matrix Addist Addist	% 100		Color (Moist)	Coated Sand Grains; Loc Wottles 9/6 e Masses (LRR N, 6 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	Type MLRA 136) 148) C 7) tic vegetation and w	Location Locati	Texture (e.g. clay, sand, loam) silt loam

Sample Point: SP-4



Tree Stratum (Plot size: 30 ft radius)

Project/Site:

Lemaster-West Lancaster 138 kV Transmission Line Relocation Proje

VEGETATION (Species identified in all uppercase are non-native species.)

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 2

Eastern Mountains and Piedmont Region

Dominance Test Worksheet % Cover Dominant Ind.Status Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 7. 8. **Prevalence Index Worksheet** 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. x 2 = 5 10 FAC spp. x 3 =10 30 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = x 5 = UPL spp. 0 0 2 3. 368 Total 97 (A) 4. 5. Prevalence Index = B/A = 3.7 6. 7 8. **Hydrophytic Vegetation Indicators:** 9. Yes Nο Rapid Test for Hydrophytic Vegetation 10. Yes No Dominance Test is > 50% v Total Cover = 0 Prevalence Index is ≤ 3.0 * Yes No V Yes No Morphological Adaptations (Explain) * V . No Herb Stratum (Plot size: 5 ft radius) Yes Problem Hydrophytic Vegetation (Explain) * FACU Schedonorus arundinaceus * In@ators of hydric soil and wetland hydrology must be Lonicera aponica 10 Ν FAC present, unless disturbed or problematic. 3 25 FACU Solidago altissima 4. lantago lanceolata **FACW Definitions of Vegetation Strata:** 2 FACU 5. Melilotus officinalis Ν 6 Daucus carota 5 Ν UPL Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. chillea millefolium Ν FACU 7. 5 8. Trifolium repens 10 Ν FACU Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. poc num cannabinum 10 Ν FACU ft. tall. 10 Dipsacus fullonum 5 Ν FACU 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3.28 ft. tall 13. 14. 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 102 Woody Vine Stratum (Plot size: 30 ft radius) Hydrophytic Vegetation Present Yes 3 No 4. 5. \checkmark Total Cover = 0 Remarks: Additional Remarks:



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Project/Site:		Vest Lancaster 138	kV Line Reloc	ation Pro	oject		Stantec Project #:	193704783		Date:	11/07/16
Applicant:		Electric Power								County:	Athens
Investigator #1:				Investi	gator #2:	Jody Nic				State:	Ohio
		t loam, 6 to 12 percent	ent slopes				IWI/WWI Classification:	None		Wetland ID:	
Landform:	Depression					Concave		Detum	NADOO	Sample Point:	
Slope (%):	4%	ditions on the site ty	39.38626000000			-82.1806		✓ Yes □	NAD83 No	Community ID: Section:	PEIVI
		or Hydrology sig	•		ai: (II IIO, e	xpiairi ir reiri	Are normal circumsta			Township:	
		or Hydrology 🗆 nat					□ Yes	□ No		Range:	Dir:
SUMMARY OF		or riyarology L ria	arany problem	atio i			100	2110		ranger	5
Hydrophytic Ved		sent?		□ Yes	□ No)		Hydric Soils	Present?		
Wetland Hydrolo				☑ Yes	□ No)				Within A Wetla	and? Ves No
Remarks:											
HYDROLOGY											
Wetland Hydro	ology Indica	ators (Check here i	f indicators are	not pres	sent):				Secondary:		
Primary:		(() () () () () () () () () (,					B6 - Surface Sc	oil Cracks
	A1 - Surface					er-Stained					egetated Concave Surface
	A2 - High Wa					uatic Fauna			_	B10 - Drainage	
	A3 - Saturation B1 - Water M					ie Aquatic I rogen Sulfic				B16 - Moss Trir C2 - Dry Seaso	
	B2 - Sedimer						spheres on Living Roots			C8 - Crayfish B	
	B3 - Drift Dep						educed Iron				Visible on Aerial Imagery
_	B4 - Algal Ma						duction in Tilled Soils				Stressed Plants
	B5 - Iron Dep	อดรแร on Visible on Aerial Ima	agery			Muck Surf plain in Re				D2 - Geomorph D3 - Shallow Ac	
	D. manaan	on violate on violatima	.go.y		0 11.01 (2)		a.no)			D4 - Microtopog	
									✓	D5 - FAC-Neutr	ral Test
Field Observat	ions:										
Surface Water F	Present?	Yes No	Depth:		(in.)			Wetland Hy	drology Pr	ncont? -	Yes No
Water Table Pre	esent?	☐ Yes ☐ No	Depth:		(in.)			welland my	urology Fi	esent: 💟	162 140
Saturation Prese	ent?		Depth:	0	(in.)						
Describe Record	ed Data (str	eam gauge, monitori	ng well, aerial p	hotos, pre	evious ins	spections)	, if available:		N/A		
Describe Recorde Remarks:	ed Data (stre	eam gauge, monitori	ng well, aerial p	hotos, pre	evious ins	spections)	, if available:		N/A		
	ed Data (str	eam gauge, monitori	ng well, aerial p	hotos, pre	evious ins	spections)	, if available:		N/A		
Remarks:	,				evious ins	spections)	, if available:		N/A		
Remarks: SOILS Map Unit Name	:	eam gauge, monitori Omulga silt loam, 6			evious ins	spections)		ainage Class:		/ Well Drained	d
Remarks: SOILS Map Unit Name Taxonomy (Sub	: group):	Omulga silt loam, 6	to 12 percent	slopes			Series Dra		Moderately		d
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip	: group): tion (Describe to	Omulga silt loam, 6	6 to 12 percent	slopes			Series Dra	ted Sand Grains; Locatio	Moderately		
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	: group): ition (Describe to Bottom	Omulga silt loam, 6	5 to 12 percent	slopes ce of indicators.) Matrix	(Type: C=Conc		Series Dra	ted Sand Grains; Locatio	Moderately	=Matrix)	Texture
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	group): tion (Describe to Bottom Depth	Omulga silt loam, 6 the depth needed to document the in Horizon	6 to 12 percent	slopes e of indicators.) flatrix bist)	(Type: C=Conc	entration, D=Depl	Series Dra etion, RM=Reduced Matrix, CS=Covered/Cor Color (Moist)	ted Sand Grains; Locatio	Moderately in: PL=Pore Lining, M	=Matrix)	Texture (e.g. clay, sand, loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	6 to 12 percent dicator or confirm the absent Color (Mo	slopes ce of indicators.) flatrix poist) 4/1	(Type: C=Conc % 92	entration, D=Dept	Series Dra etion, RM=Reduced Matrix, CS=Covered/Cor Color (Moist) 6/8	ted Sand Grains; Location Mottles % 8	Moderately n: PL=Pore Lining, M Type C	-Matrix) Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name: Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	6 to 12 percent dicator or confirm the absent Color (Mo	slopes ce of indicators.) Aatrix Dist) 4/1	(Type: C=Conc % 92	entration, D=Dept	Series Dra etion, RM=Reduced Matrix, CS=Covered/Cor Color (Moist) 6/8	ted Sand Grains; Locatio Mottles % 8	Moderately n: PL=Pore Lining, M Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	6 to 12 percent dicator or confirm the absent Color (Mo 10YR	slopes de of indicators.) fatrix poist) 4/1	(Type: C=Conc % 92 	entration, D=Dept	Series Dra etion, RM=Reduced Matrix, CS=Covered/Cos Color (Moist) 6/8	ted Sand Grains; Locatio Mottles % 8	Moderately n: PL=Pore Lining, M Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	S to 12 percent dicator or confirm the absent N Color (Mo 10YR	slopes se of indicators.) flatrix poist) 4/1	(Type: C=Conc	entration, D=Dept	Series Dra Series	ted Sand Grains; Locatio Mottles % 8	Moderately n: PL=Pore Lining, M Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	S to 12 percent dicator or confirm the absent Color (Mo 10YR	slopes ce of indicators.) fatrix Dist) 4/1	(Type: C=Conc	entration, D=Dept	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coc Color (Moist) 6/8	ted Sand Grains; Locatio Mottles % 8	Moderately n: PL=Pore Lining, M Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	S to 12 percent Color (Me 10 YR	slopes ce of indicators.) fatrix bist) 4/1	(Type: C=Conc	entration, D=Depl	Series Dra Series Dra letion, RM=Reduced Matrix, CS=Covered/Coc Color (Moist) 6/8	ted Sand Grains; Locatio Mottles % 8	Moderately n: PL=Pore Lining, M Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	S to 12 percent dicator or confirm the absent Color (Mo 10YR	slopes se of indicators.) Aatrix bist) 4/1	(Type: C=Conc	entration, D=Depi	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Cos Color (Moist) 6/8	sted Sand Grains; Locatio Vottles 9/6 8	Moderately Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	S to 12 percent M Color (Mo 10YR	slopes ce of indicators.) fatrix coist) 4/1	% 92	entration, D=Depi	Series Dra Series Dra letion, RM=Reduced Matrix, CS=Covered/Coc Color (Moist) 6/8	ted Sand Grains; Locatio Mottles % 8	Moderately n: PL=Pore Lining, M Type C	Location PL	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1	Color (Mo	slopes see of indicators.) fatrix bist) 4/1 are not	% 92	entration, D=Depi	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Cos Color (Moist) 6/8	ted Sand Grains; Locatio Viottles 96 8	Moderately in: PL=Pore Lining, M Type C	Location PL Indicators for	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S	group): tion (Describe to Bottom Depth 8 Soil Field Ir	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	S to 12 percent Stoator or confirm the absence of the confirmation of the confirmatio	slopes slopes de of indicators.) flatrix Distrix are not	% 92	10YR);	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coc Color (Moist) 6/8 F12 - Iron-Manganes	ted Sand Grains; Locatio Mottles % 8 e Masses (LRR N.	Moderately Type C MLRA 136)	Location PL Indicators for A10 - 2cm M A16 - Coast F	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S	group): stion (Describe to Bottom Depth 8 Soil Field In	Omulga silt loam, 6 the depth needed to document the in Horizon 1	Color (Mo	slopes slopes datrix datrix are not lox	% 92	10YR);	Series Dra etion, RM=Reduced Matrix, CS=Covered/Cos Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	ted Sand Grains; Locatio Vottles 96 8	Moderately in: PL=Pore Lining, M Type C MLRA 136)	Location PL Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils t Floodplain Soils (MLRA 147, 148) tt Floodplain Soils (MLRA 136, 147)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1- Histosol A2 - Histic Epipte A3 - Black Histic A4 - Hydrogen S	group): tion (Describe to Bottom Depth 8 Soil Field In	Omulga silt loam, 6 the depth needed to document the in Horizon 1	Color (Mo 10YR	slopes se of indicators.) fatrix poist) 4/1 are not ox atrix be elelow Dark	(Type: C=Conc %6 92 present	10YR	Series Dra etion, RM=Reduced Matrix, CS=Covered/Coc Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	e Masses (LRR N, (MLRA 122, 136)	Moderately in: PL=Pore Lining, M Type C MLRA 136)	Location PL Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils Aluck (MLRA 147, 148) t Floodplain Soils (MLRA 138, 147) Shallow Dark Surface
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1 - Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La	group): tion (Describe to Bottom Depth 8 Soil Field In edon edon est Sulfide eayers	Omulga silt loam, 6 the depth needed to document the in Horizon 1	S to 12 percent Sto 12 percent N Color (Mo 10YR ere if indicators S5 - Sandy Rede S6 - Stripped Ms S7 - Dark Surfac S8 - Polyvalue B S9 - Thin Dark S	slopes see of indicators.) flatrix pist) 4/1 are not lox surface (ML Surface (ML	(Type: C=Conc % 92 present	10YR	Series Dra etion, RM=Reduced Matrix, CS=Covered/Cos Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	e Masses (LRR N, (MLRA 122, 136)	Moderately in: PL=Pore Lining, M Type C MLRA 136)	Location PL Indicators fo A10 - 2cm M A16 - Coast F 19 - Piedmon TF12 - Very Other (Explain	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils t Floodplain Soils (MLRA 147, 148) tt Floodplain Soils (MLRA 136, 147)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8 Soil Field Ir	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	Color (Me 10 YR 10	slopes se of indicators.) Matrix bist) 4/1 are not ox atrix be ellow Dark Surface (ML red Matrix red Matrix	(Type: C=Conc % 92 present	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	e Masses (LRR N, (MLRA 122, 136)	Moderately Type C MLRA 136) L148)	Location PL Indicators fo A10 - 2cm M A16 - Coast F 19 - Piedmon TF12 - Very Other (Explain	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils Aluck (MLRA 147, 148) t Floodplain Soils (MLRA 138, 147) Shallow Dark Surface
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1 - Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La	group): tion (Describe to Bottom Depth Soil Field Ir edon Sulfide ayers k (LRR N) Below Dark Si	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	Color (Me 10 YR 10	slopes ce of indicators.) Aatrix Dist) 4/1 are not ox strix elelow Dark Sed Matrix atrix	(Type: C=Conc % 92 present	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	e Masses (LRR N, (MLRA 122, 136)	Moderately Type C MLRA 136) L148)	Location PL Indicators fo A10 - 2cm M A16 - Coast F 19 - Piedmon TF12 - Very Other (Explain	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils Aluck (MLRA 147, 148) t Floodplain Soils (MLRA 138, 147) Shallow Dark Surface
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Mucl A11 - Depleted B A12 - Thick Dark B12 - Thick Dark	group): tion (Describe to Bottom Depth 8 Soil Field Ir edon Sulfide ayers k (LRR N) Below Dark St k Surface k Mineral (LRR c)	Omulga silt loam, 6 the depth needed to document the in Horizon 1 andicators (check he	G to 12 percent Color (Mo 10YR	slopes see of indicators.) Aatrix Dist) 4/1 are not look atrix be ellow Dark surface (ML ved Matrix atlix see (ML ved Matrix atlix see (ML ved Surface ark Surface ark Surface	(Type: C=Conc	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	e Masses (LRR N, 2) (MIRA 122, 136) dplain Soils (MLRA 127, 14	Moderately Type C	Location PL Indicators for A10 - 2cm M A16 - Coast R F19 - Piedmon TF12 - Very Other (Explai	Texture (e.g. clay, sand, loam) clay loam TProblematic Soils Muck (MLRA 147, 148) to Floodplain Soils (MLRA 136, 147) Shallow Dark Surface ain in Remarks)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 8 Soil Field Ir edon Sulfide ayers k (LRR N) Below Dark St k Surface k Mineral (LRR c)	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	dicator or confirm the absence of the second	slopes see of indicators.) Aatrix Dist) 4/1 are not look atrix be ellow Dark surface (ML ved Matrix atlix see (ML ved Matrix atlix see (ML ved Surface ark Surface ark Surface	(Type: C=Conc	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	e Masses (LRR N, 2) (MIRA 122, 136) dplain Soils (MLRA 127, 14	Moderately Type C	Location PL Indicators for A10 - 2cm M A16 - Coast R F19 - Piedmon TF12 - Very Other (Explai	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils Aluck (MLRA 147, 148) t Floodplain Soils (MLRA 138, 147) Shallow Dark Surface
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1- Histosol A2- Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La A10 - 2 cm Mucl A11 - Depleted B A12 - Thick Darl S1 - Sandy Mucl S4 - Sandy Mucl S4 - Sandy Gley Restrictive Layer	group): tion (Describe to Bottom Depth 8 Soil Field Ir edon Sulfide ayers k (LRR N) Below Dark St k Surface k Mineral (LRR c)	Omulga silt loam, 6 the depth needed to document the in Horizon 1 andicators (check he	G to 12 percent Color (Mo 10YR	slopes see of indicators.) Aatrix Dist) 4/1 are not look atrix be ellow Dark surface (ML ved Matrix atlix see (ML ved Matrix atlix see (ML ved Surface ark Surface ark Surface	(Type: C=Conc % 92 present Surface (t	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	e Masses (LRR N, 2) (MIRA 122, 136) dplain Soils (MLRA 127, 14	Moderately Type C	Location PL Indicators for A10 - 2cm M A16 - Coast R F19 - Piedmon TF12 - Very Other (Explai	Texture (e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1- Histosol A2- Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La A10 - 2 cm Mucl A11 - Depleted B A12 - Thick Darl S1 - Sandy Mucl S4 - Sandy Mucl S4 - Sandy Gley Restrictive Layer (If Observed)	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1 andicators (check he	G to 12 percent Color (Mo 10YR	slopes see of indicators.) Aatrix Dist) 4/1 are not look Surface (ML Surface (ML Surface eark Surface are Surface eark Surface are Surface eark Surface are Surface eark Surface	(Type: C=Conc % 92 present Surface (t	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	ted Sand Grains; Locatio Wottles 9/6 8 e Masses (LRR N, (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	Moderately Type C	Location PL Indicators for A10 - 2cm M A16 - Coast R F19 - Piedmon TF12 - Very Other (Explai	Texture (e.g. clay, sand, loam) clay loam r Problematic Soils fluck (MLRA 147) Prairife Redox (MLRA 147, 148) t Floodplain Soils (MLRA 138, 147) Shallow Dark Surface ain in Remarks)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric S A1- Histosol A2- Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La A10 - 2 cm Mucl A11 - Depleted B A12 - Thick Darl S1 - Sandy Mucl S4 - Sandy Mucl S4 - Sandy Gley Restrictive Layer	group): tion (Describe to Bottom Depth 8	Omulga silt loam, 6 the depth needed to document the in Horizon 1 andicators (check he	G to 12 percent Color (Mo 10YR	slopes see of indicators.) Aatrix Dist) 4/1 are not look Surface (ML Surface (ML Surface eark Surface are Surface eark Surface are Surface eark Surface are Surface eark Surface	(Type: C=Conc % 92 present Surface (t	10YR	Series Dra Series Dra etion, RM=Reduced Matrix, CS=Covered/Coo Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	ted Sand Grains; Locatio Wottles 9/6 8 e Masses (LRR N, (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	Moderately Type C	Location PL Indicators for A10 - 2cm M A16 - Coast R F19 - Piedmon TF12 - Very Other (Explai	Texture (e.g. clay, sand, loam) clay loam



WETLAND DETERMINATION DATA FORM

Eastern Mountains and Piedmont Region

Wetland ID: Wetland 2 Project/Site: Lemaster-West Lancaster 138 kV Line Relocation Project Sample Point: SP-5 **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) Ind.Status **Dominance Test Worksheet** Species Name % Cover Dominant 2. Number of Dominant Species that are OBL, FACW, or FAC: 2 (A) 3 4. Total Number of Dominant Species Across All Strata: 3 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B) 7. 8. **Prevalence Index Worksheet** 9. Total % Cover of: Multiply by: 10 OBL spp. x 1 = Total Cover = x 2 = FACW spp. 35 70 FAC spp. x 3 = 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = x 5 = 1. UPL spp. 0 0 2 3. 105 Total 70 (A) 4. 5 Prevalence Index = B/A = 6. 7 8. **Hydrophytic Vegetation Indicators:** 9. Nο Rapid Test for Hydrophytic Vegetation Yes 10. Yes No Dominance Test is > 50% V Total Cover = Prevalence Index is ≤ 3.0 * Yes No Morphological Adaptations (Explain) * Yes V Herb Stratum (Plot size: 5 ft radius) Yes No Problem Hydrophytic Vegetation (Explain) * V OBL T pha angustifolia * Indators of hydric soil and wetland hydrology must be uncus torre i 20 Υ **FACW** present, unless disturbed or problematic. 3. 30 4. S mph otrichum lateriflorum 10 Ν **FACW Definitions of Vegetation Strata:** 5. Scirpus c perinus 5 Ν **FACW** 6 Sali nigra 10 Ν OBL Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ft. tall. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 3. Hydrophytic Vegetation Present Yes No 4. 5. \checkmark Total Cover = 0 Remarks: Additional Remarks:



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

•					Eastern	Mounta	ins and Pledmont Reg	ion			
Project/Site:	Lemaster-\	West Lancaster 138	kV Line Relo	ocation F	Project		Stantec Project #:	193704783		Date:	11/07/16
Applicant:		Electric Power			•		•			County:	Athens
Investigator #1:				Invest	igator #2:					State:	Ohio
Soil Unit:		t loam, 6 to 12 perc	ent slopes	ا ما	al Daliati		NWI/WWI Classification	: None		Wetland ID:	
Landform: Slope (%):	Depression 4%	Latitude:	39.38627		cal Relief: .ongitude:			Datum:	NAD83	Sample Point: Community ID:	
Are climatic/hyd		ditions on the site ty	nical for this	time of v	ear? (If no	explain in r	remarks)	✓ Yes □		Section:	Opianu
		or Hydrology sig			our (ii iio,	Схрішії ії і	Are normal circumsta			Township:	
Are Vegetation	Soil 🗆 ,	or Hydrology na	turally proble	matic?			✓ Yes	□ No		Range:	Dir:
SUMMARY OF		, 0, _	, ,								
Hydrophytic Ve	getation Pre	sent?		□ Yes	s _☑ No			Hydric Soils	Present?		☐ Yes ☑ No
Wetland Hydrol	ogy Present	t?		□ Yes				Is This Samp	oling Point \	Within A Wetla	and? 🔳 Yes 🖪 No
Remarks:											
HYDROLOGY											
Wetland Hydro	ology Indic	ators (Check here	if indicators a	re not p	resent): _□			Secondary:		
Primary:									_	B6 - Surface Sc	
	A1 - Surface A2 - High Wa									B8 - Sparsely Ve B10 - Drainage	egetated Concave Surface
	A3 - Saturati									B16 - Moss Trir	
	B1 - Water N				C1 - Hydr	ogen Sulf	ide Odor		_	C2 - Dry Seaso	n Water Table
	B2 - Sedime B3 - Drift De				0.4		ospheres on Living Roots educed Iron			C8 - Crayfish B	urrows Visible on Aerial Imagery
	B4 - Algal Ma				00 0		eduction in Tilled Soils				Stressed Plants
	B5 - Iron Dep	posits							_	D2 - Geomorph	ic Position
	B7 - Inundati	ion Visible on Aerial Im	agery		Other (Ex	plain in R	emarks)			D3 - Shallow Ac	
										D4 - Microtopog D5 - FAC-Neutr	
Field Observat	ione:										
Surface Water		□ Yes ☑ No	Depth:		(in.)						
Water Table Pr		☐ Yes ☑ No☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes ☑ No
Saturation Pres		□ Yes ☑ No	Depth:		(in.)						
Describe Record	ad Data (etr	eam gauge, monitori	ng well perial	nhotos	nrevioue i	nenaction	ne) if available:		N/A		
Remarks:	ca Data (Sti	cam gauge, monitori	ing wen, aenai	priotos,	previous ii	Торсскої	is), ii avaliabic.		1071		
Remarks.											
SOILS											
Map Unit Name	:	Omulga silt loam, 6	6 to 12 percer	nt slopes	3		Series Dr	rainage Class:	Moderatel	y Well Drained	d
Taxonomy (Sub			•					· ·			
	tion (Describe to	the depth needed to document the in			ors.) (Type: C=Co	ncentration, D=	Depletion, RM=Reduced Matrix, CS=Covered	//Coated Sand Grains; Loc	ation: PL=Pore Lining	g, M=Matrix)	
Тор	Bottom			Matrix	1			Mottles	r		Texture
Depth	Depth	Horizon	Color (N		%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	10	1	10YR	4/4	100						silt
				1							
□ A1- Histosol	Son Field II	ndicators (check he	ere ii indicato S5 - Sandy Re		ot presem	:):_	F12 - Iron-Manganes	SA Massas (IBB N	MI DA 196\		r Problematic Soils 1 Muck (MLRA 147)
☐ A2 - Histic Epip	edon		S6 - Stripped				F13 - Umbric Surfac	CE (MLRA 122, 136)		A16 - Coast F	Prairie Redox (MLRA 147, 148)
☐ A3 - Black Histi	С		S7 - Dark Sur	face			F19 - Piedmont Floo		. 148)	1 13 - I ledilloll	t Floodplain Soils (MLRA 136, 147)
☐ A4 - Hydrogen S			S8 - Polyvalue				,	-4		11 12 VCIY	Shallow Dark Surface
☐ A5 - Stratified L☐ A10 - 2 cm Muc			S9 - Thin Dark F2 - Loamy G)	F21 - Red Parent Ma	ateriai (MLRA 127, 14	"		in in Remarks)
☐ A11 - Depleted			F3 - Depleted		TIX.						
☐ A12 - Thick Dar			F6 - Redox Da	ark Surfac							
□ S1 - Sandy Muc□ S4 - Sandy Glev		N, MLRA 147, 148)	F7 - Depleted F8 - Redox De					1 Indiantors of hydrophy	tic vocatation and u	votland budralogu must be	e present, unless disturbed or problematic.
Restrictive Layer			I O - INCUON DE								
(If Observed)	Type:	Rock		Depth:	10"			Hydric Soil	Present?		Yes No
							•				

Sample Point: SP-6



Tree Stratum (Plot size: 30 ft radius)

Lemaster-West Lancaster 138 kV Line Relocation Project

VEGETATION (Species identified in all uppercase are non-native species.)

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 3

Eastern Mountains and Piedmont Region

Dominance Test Worksheet % Cover Dominant Ind.Status Species Name Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) 2. 3 4. Total Number of Dominant Species Across All Strata: 3 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B) 7. 8. **Prevalence Index Worksheet** 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. x 2 = 10 FAC spp. 5 x 3 =15 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = x 5 = UPL spp. 0 0 2 3. 193 Total 52 (A) 4. Prevalence Index = B/A = 5. 3.7 6. 7 8. **Hydrophytic Vegetation Indicators:** 9. Yes Nο Rapid Test for Hydrophytic Vegetation 10. Yes No Dominance Test is > 50% v Total Cover = 0 Prevalence Index is ≤ 3.0 * Yes No V Yes No Morphological Adaptations (Explain) * V . No Herb Stratum (Plot size: 5 ft radius) Yes Problem Hydrophytic Vegetation (Explain) * FACU ndropogon irginicus * In@ators of hydric soil and wetland hydrology must be osa multiflora 5 Ν FACU present, unless disturbed or problematic. 3 cnanthemum erticillatum 5 FAC 4. Solidago altissima **FACW Definitions of Vegetation Strata:** FACU 5. oa pratensis 6 uniperus irginiana 2 Ν **FACU** Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ---ft. tall. 10 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall 13. 14. 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 52 Woody Vine Stratum (Plot size: 30 ft radius) 3. Hydrophytic Vegetation Present Yes No 4. 5. \checkmark Total Cover = 0 Remarks: **Additional Remarks:**

LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

D.2 ORAM DATA FORMS



Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization Background Information

Version 5.0

Background Information
Scoring Boundary Worksheet
Narrative Rating
Field Form Quantitative Rating
ORAM Summary Worksheet
Wetland Categorization Worksheet

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

Instructions

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

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

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

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

Background Information

Name: Agran Kwolek	
Date: 11 // W///	
Affiliation:	
Stantec Address:	
11687 Lebanon Rd, CMainnati, OH 45241	
Phone Number: 513 842 8200	
e-mail address:	
Name of Wetland: 11	
Vegetation Communities):	
PEM	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
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5	
D Cadust (1) 9	
Posten Ra Endustrial Dr	
Poston Station	
Lat/Long or UTM Coordinate	
Lat/Long or UTM Coordinate 39.38 6 6 38, -8 2, 1 79 21 6	
Nelsonville	
AThens	
The Plains	
Section and Subsection SEC TIZN RISW	
Hydrologic Unit Code 050302040801	
Site Visit 11/7/16	
National Wetland Inventory Man	
Ohio Wetland Inventory Map	
Nove	
Omy Cl Omylac Silt loam 6-12% Glodes	
Delineation report/map See Justsdictional Voters Delineation Report	

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mments, Narrative Discussion, Justifi	cation of Category Changes:
nal score: 37-6	Category: 7

wetland 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

wetland 1

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

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

wetland 1

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

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	00		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Metric 1. Wetland Area (size). Selections size class and salays score. 20 Jan (5 pts) 25 to 50 ares (10 to 520 Jan) (5 pts) 25 to 50 ares (10 to 520 Jan) (5 pts) 10 to 25 areas (10 to 520 Jan) (5 pts) 25 to 50 ares (10 to 50 Jan) (5 pts) 3 to 10 ares (12 to 54 Jan) (5 pts) 3 to 10 areas (2 to 50 Jan) (5 pts) 4 to 50 Jan (5 pts) 5	Site: wet	land	1		Rater(s):	A5K		Date: 11/7/2010
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WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)	9 1	INIE	etric 2.	. Upiand bu	mers and	surrouna	ing land use	}.
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)	max 14 pts. subto	otal 2a.	Calculate a	verage buffer width. S	Select only one a	and assign score. [Do not double check.	
NARROW. Buffers average 10m to -25m (32ft to -82ft) around wetland perimeter (1)			WIDE	 Buffers average 50r 	n (164ft) or more	a around wetland po	erimeter (7)	
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2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. Jod field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Wetric 3. Hydrology. Wetric 3. Hydrology. Wetric 3. Hydrology. Sa. Sources of Water. Score all that apply. High pH groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Personalis surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (4) Rescovered (7) Recovered (7) Recovered (7) Recovering (2) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (8) Recovering (8) Recovering (9) R								1)
LOW. Old field (>10 years), shrub land, young second growth forest. (5)		2b.	Intensity of	surrounding land use.	Select one or	double check and a	iverage.	
MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. 3a, Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (alse or stream) (5) 3d. Duration inundation/saturation. Score one or double check and assign score. > 0.7 (27.6 fin) (3) - 0.4 to 0.7 m (15.7 to 27.6 in) (2) - 0.4 to 0.7 m (15.7 to 27.6 in) (2) - 0.4 to 0.7 m (15.7 to 27.6 in) (2) - 0.4 to 0.7 m (15.7 to 27.6 in) (2) - 0.5 m (15.7 in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovering (3) Recovering (3) Recovering (2) Recovering (2) Recovering (2) Recovering (2) Recovering (3) Recovering (3) Recovering (3) Recovering (2) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (4) Recover								
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Site: wet	and 1	Rater(s): A	JK		Date: 11/7/20/
25, subtotal first	Metric 5 Speci	al Wetlands.			
max 10 pts. subtots	Bog (10) Fen (10) Old growth forest (1) Mature forested we Lake Erie coastal/tr Lake Erie coastal/tr Lake Plain Sand Pr Relict Wet Prairies Known occurrence Significant migrator	0) tland (5) ibutary wetland-unrestricte ibutary wetland-restricted airies (Oak Openings) (10	hydrology) r endangei itat or usag	red species (10) ge (10)	
10 35,	7.4 4 1 0 01 4			spersion, microto	pography.
max 20 pts subtota		munities. Veget	ation Com	munity Cover Scale	
	Score all present using 0 to 3			sent or comprises <0.1ha (0.24	171 acres) contiguous area
	Aquatic bed Emergent Shrub		,	esent and either comprises sma vegetation and is of moderate q significant part but is of low qua	uality, or comprises a
	Forest Mudflats Open water			esent and either comprises sign regetation and is of moderate quality	uality or comprises a small
	Other_ 6b. horizontal (plan view) Inte			esent and comprises significant vegetation and is of high quality	
	Select only one. High (5)	Narrat	live Descr	iption of Vegetation Quality	
	Moderately high(4) Moderate (3)		DW Lo	w spp diversity and/or predomin disturbance tolerant native spec	cles
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plar to Table 1 ORAM long form for	nts. Refer		ative spp are dominant compone although nonnative and/or distu can also be present, and specie moderately high, but generally v threatened or endangered spp	rbance tolerant native spp es diversity moderate to
	or deduct points for coverage Extensive >75% co Moderate 25-75% co Sparse 5-25% cove	ver (-5) cover (-3) er (-1)		predominance of native species and/or disturbance tolerant nativa absent, and high spp diversity a the presence of rare, threatened	ve spp absent or virtually and often, but not always,
	Nearly absent <5%		of and O	Willeton Class Curille	
	Absent (1) 6d. Microtopography.			on Water Class Quality osent <0.1ha (0.247 acres)	
	Score all present using 0 to 3			w 0.1 to <1ha (0.247 to 2.47 ac	cres)
	Vegetated hummuc			oderate 1 to <4ha (2.47 to 9.88	
	Coarse woody debr		3 Hi	gh 4ha (9.88 acres) or more	
	Standing dead >25			W Cover Scole	
	Z Amphibian breeding			y Cover Scale	-
			1 Pr	esent very small amounts or if r of marginal quality	more common
				esent in moderate amounts, bu quality or in small amounts of hi	
			3 Pr	esent in moderate or greater an	nounts



End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

wetland 1

		circle answer or insert	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO/	If yes, Category 3.
turium rumg			ii yes, oategory o.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	TO THE OWNER OF THE OWNER OWNER OF THE OWNER
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	7	
	Metrio 4. Habitat	7,5	
	Metric 5. Special Wetland Communities	C	7 112 2 2 1 2 2
	Metric 6. Plant communities, interspersion, microtopography	- 10	
	TOTAL SCORE	35,5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet Wetland |

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	20	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A welland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one	Category 1	Category 2	Category 3
CHOOSE OHE	Category	Category 2	Category

End of Ohio Rapid Assessment Method for Wetlands.

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

Instructions

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

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

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

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

Background Information

Name:	
Aaron Kwolek	
Date: 11/14/16	
Affiliation:	
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513 842 8200	
e-mail address:	
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Wetland 2	
Vegetation Communit(ies):	
HGM Class(es):	
Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
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me of Wetland: wetland 2	
etland Size (acres, hectares): 0,06 %	
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poston station	
mments, Narrative Discussion, Justification of Category Changes:	
inal score : 17 Categor	

wetland 2

Scoring Boundary Worksheet

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

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

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

Narrative Rating

wetland 2

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

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

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

wetland 2

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensi Calamogrostis strict Carex atherode Carex buxbaum Carex pellit Carex sartwell Gentiana andrews Helianthus grosseserratu Liatris spicat Lysimachia quadrifler Lythrum alatur Pycnanthemum virginianus Silphium terebinthinaceus Sorghastrum nutan Spartina pectinat

Table 1. Characteristic plant species.

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

Site: \	wet	land 2	Rater(s): AJK	Date: 11 /	7/16
O		Metric 1. Wetland	Area (size).		
max 6 pts.	subtotal	Select one size class and assign s >50 acres (>20.2ha) (6	score.		
		25 to <50 acres (10.1 to	<20.2ha) (5 pts)		
		10 to <25 acres (4 to <1 3 to <10 acres (1.2 to <			
		0.3 to <3 acres (0.12 to 0.1 to <0.3 acres (0.04 to	<1.2ha) (2pts)		
		<0.1 acres (0.04ha) (0 p	ots)		
3	3	Metric 2. Upland I	ouffers and surround	ing land use.	
max 14 pts.	subtotal	2a. Calculate average buffer widt	h. Select only one and assign score. D	o not double check.	
		MEDIUM. Buffers avera	50m (164ft) or more around wetland peage 25m to <50m (82 to <164ft) around	wetland perimeter (4)	
		NARROW. Buffers ave	rage 10m to <25m (32ft to <82ft) arouners average <10m (<32ft) around wetlan	d wetland perimeter (1)	
		2b. Intensity of surrounding land	use. Select one or double check and a	verage.	
		LOW. Old field (>10 ye	h or older forest, prairie, savannah, wild ars), shrub land, young second growth t	forest. (5)	
		MODERATELY HIGH.	Residential, fenced pasture, park, cons l, open pasture, row cropping, mining, c	ervation tillage, new fallow field. (3)	
4	7	Metric 3. Hydrolog		onoradion. (1)	
max 30 pts.	subtotal	3a. Sources of Water. Score all t	hat apply 3b.	Connectivity. Score all that apply	
		High pH groundwater (5 Other groundwater (3)		100 year floodplain (1)	
		× Precipitation (1)		Between stream/lake and other hu Part of wetland/upland (e.g. forest	iman use (1) i), complex (1)
		Seasonal/Intermittent seasonal Seasonal/Intermittent seasonal	urface water (3)	Part of riparian or upland corridor Duration inundation/saturation. Score or	
		3c. Maximum water depth. Selec	t only one and assign score	Semi- to permanently inundated/s	aturated (4)
		>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.	6in) (2)	Regularly inundated/saturated (3) Seasonally inundated (2)	
		3e. Modifications to natural hydro	logic regime. Score one or double chec	Seasonally saturated in upper 30c	:m (12in) (1)
		None or none apparent			
		Recovered (7) Recovering (3)	ditch	point source (nonstormwater) filling/grading	
		Recent or no recovery (1) dike weir	road bed/RR track	
			stomwater input	dredging other	4
41	Н	Metric 4. Habitat	Alteration and Develo	pment.	=
max 20 pts.	subtotal	4a Substrate disturbance Score	one or double check and average.		
		None or none apparent	(4)		
		Recovered (3) Recovering (2)			
		Recent or no recovery (4b. Habitat development. Select	1) only one and assign score		
		Excellent (7)	only one and assign score.		
		Very good (6) Good (5)			
		Moderately good (4) Fair (3)			
		Poor to fair (2)			
		Poor (1) 4c. Habitat alteration. Score one	or double check and average.		
		None or none apparent	(9) Check all disturbances observed		
		Recovered (6) Recovering (3)	mowing grazing	shrub/sapling removal herbaceous/aquatic bed removal	
		Recent or no recovery (1) clearcutting	sedimentation	
	11		selective cutting woody debris removal	dredging farming	
5	subtotal this p	age	toxic pollutants	nutrient enrichment	
		ary 2001 jjm			_

Site: wetland 2	Rater	(s): ATK	Date: 11/7/11
subtotal first page Metr	ic 5. Special Wetlan	nds.	
max 10 pis subtotal Check all	I that apply and score as indicated		
	Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-take Erie coastal/tributary wetland-take Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thresignificant migratory songbird/water Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or enda r fowl habitat or	angered species (10) usage (10)
Metr	3		erspersion, microtopography.
1 12			
	and Vegetation Communities.		Community Cover Scale
Score all	present using 0 to 3 scale	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
- 5	Aquatic bed	1	Present and either comprises small part of wetland's
_3	Emergent Shrub		vegetation and is of moderate quality, or comprises a significant part but is of low quality
	Forest	2	Present and either comprises significant part of wetland's
	Mudflats		vegetation and is of moderate quality or comprises a small
	Open water		part and is of high quality
	Other	3	Present and comprises significant part, or more, of wetland's
6b. horiz	contal (plan view) Interspersion.		vegetation and is of high quality
Select or	nly one.		
T 1	High (5)		escription of Vegetation Quality
	Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
	Moderate (3)	ac ed	Native spp are dominant component of the vegetation,
	Moderately low (2) Low (1)	mod	although nonnative and/or disturbance tolerant native spp
1	None (0)		can also be present, and species diversity moderate to
6c. Cove	erage of invasive plants. Refer		moderately high, but generally w/o presence of rare
	1 ORAM long form for list. Add		threatened or endangered spp
or deduc	t points for coverage	high	A predominance of native species, with nonnative spp
- 1 m	Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
	Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
2	Sparse 5-25% cover (-1)	-	the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflat and	d Open Water Class Quality
6d Micro	otopography.	0	Absent <0.1ha (0.247 acres)
	present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
100	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
200	Standing dead >25cm (10in) dbh		
	Amphibian breeding pools	_	graphy Cover Scale
		0	Absent
		- 4	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
		3	and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

wetland 2

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	G	
	Metric 2. Buffers and surrounding land use	3	STEED TO SE
	Metric 3. Hydrology	4	
	Metric 4. Habitat	1	A CONTRACTOR
	Metric 5. Special Wetland Communities	3	Wat Amily and
	Metric 6. Plant communities, interspersion, microtopography		
	TOTAL SCORE	12	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

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

End of Ohio Rapid Assessment Method for Wetlands.

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

Instructions

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

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

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

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

Background Information

Name: Agran Kw	lok
Date: ///////	CIEN
Affiliation:	
Stanted	
Address:	ignon Rd, Cincinnati, OH 45241
i none munici.	842 8200
e-mail address:	
Name of Wetland:	· Kwolek @ stantec. com
	wetland 3
Vegetation Communit(ies):	PEM
HGM Class(es):	essions)
	nap, address, north arrow, landmarks, distances, roads, etc.
	×
	Endustrial DE
	Poston Ra
	Poston Station
10	
Lat/Long or UTM Coordinate	
IIS(3S C)liad Namo	9.386434°N -82.181643°W
Nels	onville
A Thens	
Township The Plana	2.5
Section and Subsection	EI TIZN RISW
Hydrologic Unit Code 050 7	02040801
Site Visit 11/7/16	02-1-401
National Wetland Inventory Map	
	None
Ohio Wetland Inventory Map	
Ohio Wetland Inventory Map	None
Soil Survey	

lame of Wetland: Wetlaw	
etland Size (acres, hectares):	onship with other surface waters, vegetation zones, etc.
ketch: Include north arrow, relati	onship with other surface waters, vegetation zones, etc.
	and the same of th
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1	ind
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	1 4 60
	A french - cress 20
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	mound 1835
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	1 25%
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	mound Too was in 15 5 and I was
mments, Narrative Discussion,	Justification of Category Changes:
nal score : 🏻 🖯	Category:

Scoring Boundary Worksheet

wetland 3

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

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

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

Narrative Rating

wetland 3

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

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

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

Table 1. Characteristic pl	ant species.		wetla	nd 3
invasive/exotic spp	fen species	bog species	Oak Opening species	wet prairi

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum	Calla palustris Carex atlantica var. capillacea Carex echinata Carex chinata Carex chinata Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis canadensis Carex atherodes Carex buxbaumin Carex pellita Carex sartwellin Gentiana andrewsin Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellin

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

Site: we	tland 3	Rater(s): AJK TON	Date: /////
0	Metric 1. Wetla	nd Area (size).	
max 6 pts. sui	Select one size class and as	sian score.	
	>50 acres (>20.2h	a) (6 pts)	
		0.1 to <20.2ha) (5 pts) to <10.1ha) (4 pts)	
	3 to <10 acres (1.1	2 to <4ha) (3 pts)	
		12 to <1.2ha) (2pts) 0.04 to <0.12ha) (1 pt)	
	<0.1 acres (0.04h)	a) (0 pts)	
4	Metric 2. Uplar	nd buffers and surrounding	land use.
max 14 pts. sul		r width. Select only one and assign score. Do not	
	MEDIUM. Buffers	erage 50m (164ft) or more around welland perimete average 25m to <50m (82 to <164ft) around wetlar	nd perimeter (4)
		s average 10m to <25m (32ft to <82ft) around wetl	
	2b. Intensity of surrounding	Buffers average <10m (<32ft) around wetland periland use. Select one or double check and average	meter (U) e.
	VERY LOW. 2nd	growth or older forest, prairie, savannah, wildlife are	ea, etc. (7)
	MODERATELY H	10 years), shrub land, young second growth forest. IGH. Residential, fenced pasture, park, conservation	(5) on tillage, new fallow field, (3)
	HIGH. Urban, ind	ustrial, open pasture, row cropping, mining, constru	action. (1)
48	Metric 3. Hydro	ology.	
max 30 pts. su	3a. Sources of Water. Sco	e all that apply. 3b. Conn	ectivity. Score all that apply
	High pH groundwa	ater (5)	100 year floodplain (1)
	Other groundwate	r (3)	Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1)
	Seasonal/Intermit	ent surface water (3)	Part of wettartorupland (e.g. forest), complex (1)
		water (lake or stream) (5) 3d. Durat Select only one and assign score.	ion inundation/saturation. Score one or dbl check
	>0.7 (27.6in) (3)	Selectionly one and assign score.	Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)
	0.4 to 0.7m (15.7	o 27.6in) (2)	Seasonally inundated (2)
	< <0.4m (<15.7in) (3e. Modifications to natural	hydrologic regime. Score one or double check and	Seasonally saturated in upper 30cm (12in) (1)
		arent (12) Check all disturbances observed	
	Recovered (7)	ditch	point source (nonstormwater)
	Recovering (3) Recent or no reco	very (1) tile dike	filling/grading road bed/RR track
		weir	dredging
		stormwater input	other
7 1		at Alteration and Developm	nent.
	blotal 4a. Substrate disturbance	Score one or double check and average.	
	None or none app		
	Recovered (3) Recovering (2)		
	Recent or no reco		
		Select only one and assign score.	
	Excellent (7) Very good (6)		
	Good (5)		
	Moderately good Fair (3)	(4)	
	Poor to fair (2)		
	Poor (1)	e one or double check and average.	
	None or none app		
	Recovered (6)	mowing	
	Recovering (3)	grazing	herbaceous/aquatic bed removal
	Recent or no reco	very (1) clearcutting selective cutting	sedimentation dredging
		woody debris removal	farming
subtoto	If this page	toxic pollutants	nutrient enrichment
	ebruary 2001 jjm		

Site:	wetl	and	3	Rate	er(s): AIk	SCN	Date: 11/7/66
	11						
	subtotal first p	age					
0	Tii	-	ric 5. S	pecial Wetla	nds.		
new 10 etc	auhtatat						
nax 10 pts.	subtotal	Check a		and score as indicated			
		-	Bog (10) Fen (10)				
				forest (10)			
			_	ested wetland (5)			
				coastal/tributary wetland	d-unrestricted hyd	Irology (10)	
			_	coastal/tributary wetland	•	•• , ,	
			Lake Plain	Sand Prairies (Oak Op	enings) (10)		
			Relict Wet	Prairies (10)			
			_	currence state/federal th			
				migratory songbird/wat			
			Category 1	Wetland. See Question	n 1 Qualitative R	ating (-10)	
	1	Met	ric 6 P	lant commu	nities, int	erspersion, r	nicrotopography.
-	10	1.0.0				оторогологі, г	
nax 20 pts	subtotal	ار 60 ///ot	tland Vagetei	tion Communities.	Venetation	Community Cover Sca	ale.
idx 20 pto	Cite in the			ng 0 to 3 scale.	0		<0.1ha (0.2471 acres) contiguous area
		Octore at	Aquatic be		1		imprises small part of wetland's
		- 6		•		A STATE OF THE PARTY OF THE PAR	f moderate quality, or comprises a
	10,25	7	Shrub			significant part but i	
	10,25	25	Forest		2		imprises significant part of wetland's
			Mudflats				moderate quality or comprises a sma
		100	Open wate	r		part and is of high o	
			Other		3		es significant part, or more, of wetland's
		6b. hori	izontal (plan v	view) Interspersion.		vegetation and is of	high quality
		Select o	nly one.			secondate Liferian	
			High (5)		Narrative D	escription of Vegetation	
		1 1	Moderately		low	The second secon	l/or predominance of nonnative or
		1	Moderate (•		disturbance toleran	
			Moderately	low (2)	mod	The second secon	ant component of the vegetation,
			Low (1)			_	and/or disturbance tolerant native spp
			-	at a stanta Defen			t, and species diversity moderate to
				sive plants. Refer g form for list. Add		threatened or enda	ut generally w/o presence of rare
				*	high		ative species, with nonnative spp
			ct points for c	>75% cover (-5)	nign		tolerant native spp absent or virtually
	ngu4 til	2119		25-75% cover (-3)			p diversity and often, but not always,
	cu4 +1			5% cover (-1)			e, threatened, or endangered spp
, an	79			ent <5% cover (0)		1	
			Absent (1)		Mudflat and	Open Water Class Qu	iality
		6d. Mici	rotopography		0	Absent <0.1ha (0.24)	
				ng 0 to 3 scale.	1	Low 0.1 to <1ha (0.24	
			Vegetated	hummucks/tussucks	2	Moderate 1 to <4ha	(2.47 to 9.88 acres)
				ody debris >15cm (6in)	3	High 4ha (9.88 acres)	or more
		14/12	Standing d	ead >25cm (10in) dbh			
			Amphibian	breeding pools	Microtopog	raphy Cover Scale	
		1			0	Absent	
					1	of marginal quality	nounts or if more common
					2	Present in moderate	amounts, but not of highest mounts of highest quality
					3	Present in moderate	
						and of highest quali	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

wetland 3

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

wetland 3

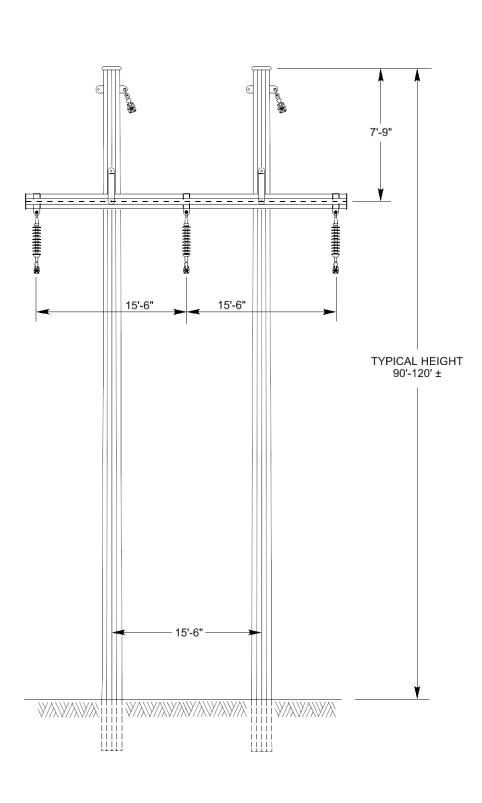
Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	VVetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons of information for this determination should be provided.

Final Category					
Choose one	Category 1	Category 2	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

LETTER OF NOTIFICATION FOR LEMASTER-WEST LANCASTER 138 KV TRANSMISSION LINE RELOCATION PROJECT UPDATE

Appendix C. Structure Design and Phasing Diagrams



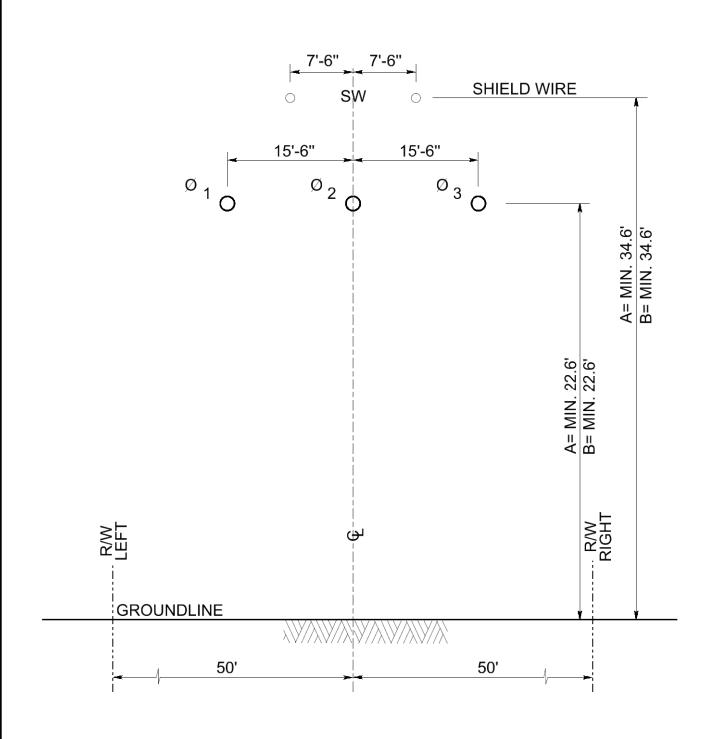
AEP AMERICAN® ELECTRIC POWER

LEEMASTER - WEST LANCASTER 138kV LINE

TYPICAL TANGENT STRUCTURE TUBULAR STEEL H-FRAME SUSPENSION

NOT TO SCALE

FIGURE 1



DIMENSION "A" SINGLE CIRCUIT - HOR. CONFIGURATION (STEEL POLE) (UNDER EMERGENCY & NORMAL MAX. LINE LOADING)

DIMENSION "B" SINGLE CIRCUIT - HOR. CONFIGURATION (STEEL POLE) (UNDER WINTER NORMAL CONDUCTOR RATING)

AEP AMERICAN° ELECTRIC POWER

LEEMASTER - WEST LANCASTER 138kV LINE

TYPICAL PHASE ARRANGEMENT STEEL POLE

NOT TO SCALE

FIGURE 2

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in

Case No(s). 17-2438-EL-BLN

Summary: Letter of Notification electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.