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Chairman Asim Z. Haque Ohio Power Siting Board 180 East Broad Street Columbus, Ohio 43215-3793

May 9, 2017

RE: PUCO Case No. 17-0632-EL-BLN

Lemaster-West Lancaster 138-kV Transmission Line Relocation Project

Dear Chairman Haque:

On April 4, 2017, AEP Ohio Transmission Company, Inc. inadvertently filed the wrong Ecological Resources Inventory Report with the Letter of Notification in the above-referenced case. Please replace the report originally filed with the appropriate Lemaster-West Lancaster Ecological Resources Inventory Report attached.

Respectfully submitted,

/s/ Hector Garcia

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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:

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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 0.46 miles of existing 138 kV transmission line which terminates at AEP's existing Poston Station and constructing approximately 0.50 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. 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.

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, for threatened and endangered species or their habitats. 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</i> arundinaceus), broomsedge bluestem (<i>Andropogon virginicus</i>), goldenrod (<i>Solidago</i> sp.), and aster (<i>Symphyotrichum</i> sp.).	No	8.54
Mixed Early Successional/ Second Growth Deciduous Forest	Some past disturbance but trending to naturalized. Dominated by sugar maple (<i>Acer saccharum</i>), beech (<i>Fagus grandifolia</i>), and American elm (<i>Ulmus americana</i>).	No	1.31
Industrial	Extreme Disturbance/existing gravel pad. Dominated by dandelion (<i>Taraxacum offinionale</i>) and white clover (<i>Trifolium repens</i>).	No	0.27
		Total	10.12

3.2 WETLANDS

Stantec completed field surveys within the Project area on November 7-8, 2016, 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 ⁵	ORAM Category ⁵	Delineated Area (acres) within Project Area
Wetland 1	1, 2	No	PEM ³	35.5	2	0.57
Wetland 2	3	Yes	PEM ³	12	1	0.02
Wetland 3	5-7	No	PSS ⁴	35	2	0.46
Wetland 4	4	Yes	PSS ⁴	15	1	0.04
					TOTAL	1.09
¹ Figure 2 and Ap	pendix C - R	epresentativ	ve Photographs			
² Wetland classifi	ication is base	ed on Cowa	rdin et al. (1979).	·		_

³ PEM = Palustrine Emergent Wetland

3.3 STREAMS

Stantec completed field surveys within the Project area on November 7-8, 2016, for wetlands and waterbodies. No streams 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).



⁴PSS = Palustrine Scrub Shrub Wetland

⁵ 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	O.N.	Occurs in tall grass prairie remnants (Butterflies and Moths of North America 2016).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Grizzled Skipper	Pyrgus centaureae wyandot	П	Yes	O N	This species is associated with openings in mature oak forests that support stands of Canada cinquefoil. Most of these areas are highly disturbed, and are characterized by fair amounts of exposed soil and rock (ODNR 2016b).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
American Burying Beetle	Nicrophorus americanus	Е	Yes	ON	Current information suggests this species is a habitat generalist, or one that lives in many types of nabitat, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2016b).	N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Caddisfly	Brachycentrus numerosus	П	Yes	Yes	Habitat preference has not been assessed at this time (NatureServe 2016), 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	F	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	o Z	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 cobble sized rocks (ODNR 2016b).	0 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 species or other lacky to impact this species or other aquatic species.



Common Name	Scientific Name	State Listing ¹	Known to Occur in Athens	Known Within One Mile of Project Area?3	Habitat Preference	Potential Habitat Observed in	Impact Assessment	ODNR Comments/Recommendations
River Darter	Percina shumardi	-	Yes	O Z	Large rivers and lower portions of tributaries; deep chutes and riffles where current is swift and substrates are coarse gravel or rock (NatureServe 2016).	0 N	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.
					Amphibians			
Midland Mud Salamander	Pseudotriton montanus diastictus	L	Yes	NO	Muddy springs, slow floodplain streams, and swamps along slow streams; backwater ponds and marshes created by beaver activity (NatureServe 2016).	O N	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	E	Yes	NO	Eastern 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 sites. When inteactive, 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 2016).	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.
Eastern Hellbender	Cryptobranchus alleganiensis alleganiensis	E	Yes	NO	Rocky, clear creeks and rivers, usually where there are large shelter rocks. The species prefers cool waters with temperatures usually lower than 20 degrees Celsius. High amounts of instream cover are needed for shelter/reproduction, including large flat rocks or submerged logs (NatureServe 2016).	O N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
					Mussels			
Clubshell	Pleurobema clava	Е	Yes	N 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 Gororint (2001) found the eclubshell in gravel/sand substrate, in runs having laminar flow (0.06-0.25 m/sec) within small to medium sized streams.	O N	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 ilkely to impact this species.
Snuffbox	Epioblasma triquetra	E	Yes	No	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 2016).	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.
Fanshell	Cyprogenia stegaria	E	Yes	No	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2016).	O N	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	ON	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 2016).	O Z	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 perennia stream of sufficient size, the Project is not likely to impact this species.
Sheepnose	Plethobasus cyphyus	В	Yes	No	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 2016).	O Z	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	Т	Yes	No	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 2016).	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.
Threehorn Wartyback	Obliquaria reflexa	T	Yes	ON	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 2016).	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.
Fawnsfoot	Truncilla donaciformis	Т	Yes	NO	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 2016).	O Z	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	×68	O Z	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 floodpain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (flive or dead) with exfoliating bafk, 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 microcilimate conditions (USFWS 2007; USFWS 2015b). 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).	o Z	No hibernacula or sultable 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	ш	Yes	NO	Typical habitat is rocky cliffs and slopes (NatureServe 2016).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.



State Listing ¹ C	Known to Kn Occur in O Athens Pro	Known Within One Mile of Project Area? ³	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Yes		ON	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 2016)	Yes	Habitat was observed within the Project area, but due to the mobility of this species no impacts are anticipated.	Due to the mobility of this species, the Project is not likely to impact this species.
Yes		° Z	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes crecks, 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 hibemacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	° 2	No hibernacula or suitable toost 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 cannot be a suitigist of the suiting the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No comments received.
			Reptiles			
Yes		o Z	In the central Midwest, optimum habitat is a high, dry ridge 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 (Nature Serve 2016).	, kes	Potential habitat (open areas adjacent to hilly forested 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.	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.
Yes		N N	Spotted turties 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 occur in brackish tidal streams (NatureServe 2016).	O N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Yes		Yes	This species prefers forests, fields, and scrub shrub habitats. Eastem box turtles use lose soil, debris, and leaf litter for cover. Areas with loose, loamy soils are preferred for egg laying sites (NatureServe 2016).	Yes	This species typically prefers moist forest and scub shub 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.	No comments received.



ODNR Comments/Recommendations		No comments received.
Impact Assessment		No habitat was observed within the Project area. Therefore, no impacts are anticipated.
Potential Habitat Observed in Project Area?		NO
Habitat Preference	Plants	This species prefers wet meadows and open, swampy woods dominated by native species (NatureServe 2016).
Known Within One Mile of Project Area? ³		Yes
Known to Occur in Athens County?2		Yes
State Listing ¹		Status Not Determined
Scientific Name		Eupatorium pilosum
Common Name		Rough Boneset
		Rough Boneset

rE=Endangered; T=Threatened; SOC=Species of Concern Paccording to Ohio Department of Natural Resources, State Listed Wildlife Species by County (ODNR 2016a).

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

Common	Scientific Name	Federal Listing ¹	Known to Occur in Athens County?2	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
				Mammals			
Indiana bat	Myotis sodalis	ш	Yes	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (fleack et al. 2010). Natural roots 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 area; Dead trees are preferred as maternity roots; however, live trees are often used as secondary roosts depending on microclimate conditions (USPWS 2007; USFWS 2015b). 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).	O _N	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 cleaning the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, USFWS recommends that trees >3 inches dub be saved wherever possible. Since indiana bat presence in the vicinity of the project has been confirmed, cleaning of trees >3 inches obb 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 dish 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.
Northern Long-eared Bat	Myotis septentrionalis	-	Yes	The northern long-eared bat is found throughout Ohlo. This species generally forages in forested habitat and unifies 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 whiter hibemacula. Various sized caves are used providing they have a constant temperature, high hundlify, and little ion or air current (Brack et al. 2010).	NO	No hibernacula or suitable roost trees were observed within the Project area. If AEP determines trees 5.2" dab must be removed for this project, AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No specific comments received (other than discussion of suitable habitat).
				Birds			
Bald Eagle	Hallaeetus Ieucocephalus	soc	Yes	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 2016).	NO	No nests or sultable nesting habitat was observed in the Project area. Therefore, no impacts are anticipated.	No comments received.
				Mussels			
Snuffbox	Epioblasma triquetra	Ш	Yes	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 2016).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Fanshell	Cyprogenia stegaria	Е	Yes	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2016).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.



Common	Scientific Name	Federal Listing ¹	Known to Occur in Athens County?2	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Pink Mucket	Lampsilis orbiculata	ш	Yes	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 2016).	O N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Sheepnose	Plethobasus cyphyus	E	Yes	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 2016).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
				Insects			
American Burying Beetle	Nicrophorus americanus	Е	Yes	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 2016b).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
				Reptiles			
Timber Rattlesnake	Crotalus horridus horridus	SOC	Yes	In the central Midwest, optimum habitat is a high, dry ridge with oak- hickory forest interspersed with open areas. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fisure in a ledge, a crevice between a ledge and ground, and fallen rock associated or unassociated with cliffs (NatureServe 2016).	Yes	Potential habitat (open areas adjacent to hilly forested 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 comments received.
¹ E=Endanger ² According to	'E=Endangered; T=Threatened; SOC=Species of Concern 2According to USFWS (2015a).	SOC=Speci	ies of Concei	Ε.			



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. During the field surveys, two palustrine emergent wetlands totaling approximately 0.59 acres and two palustrine scrub shrub wetlands totaling 0.50 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.

Three state-listed 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, a caddisfly, and eastern box turtle (Appendix B). None of these known locations are within or in the immediate vicinity of the Project area. Some small amounts of habitat for eastern box turtle is present in the Project area, though this species typically prefers moist forest and scrub shrub habitats. No 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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Appendix A Figures

A.1 FIGURE 1 – PROJECT LOCATION MAP





Existing Lemaster-West Lancaster Transmission Line to be Removed

Notes

1. Conditions System: NAD 1983 StatePlane Ohio South FPS 3402 Feet

2. Data Southers Includes Stanter, ARP, NADS

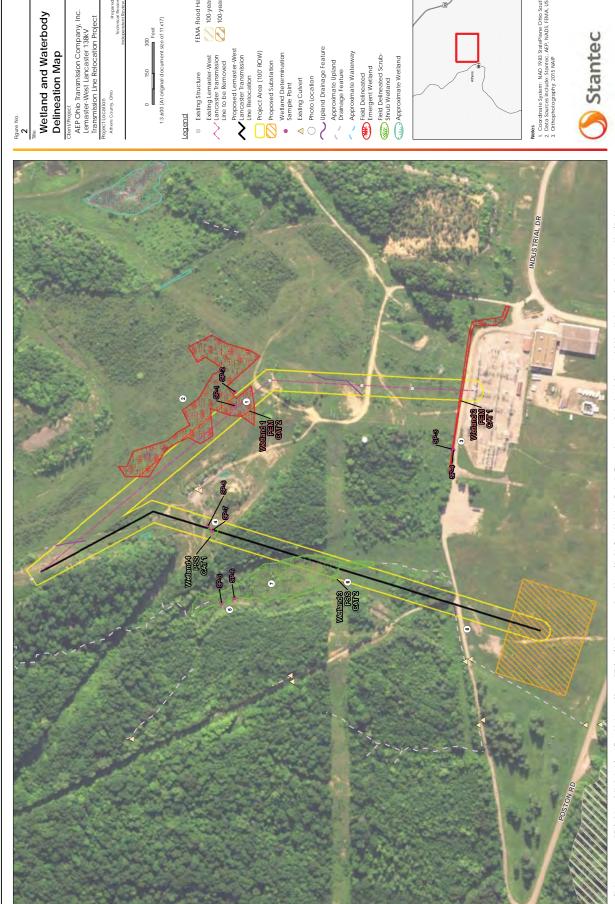
2. Data Southers Includes Stanter, ARP, NADS

3. Background: 1682 7.8 inopogenPluc Quadrangles - Ne

Stantec

A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP





FEMA flood Hazard Areas
100-year Flood Zone
100-year Floodway

Proposed Lemaster-West

Lancaster Transmission
Line Relocation

Approximate Upland Drainage Feature 🗸 👡 Approximate Wate

Field Delineated Emergent Wetland



Note:

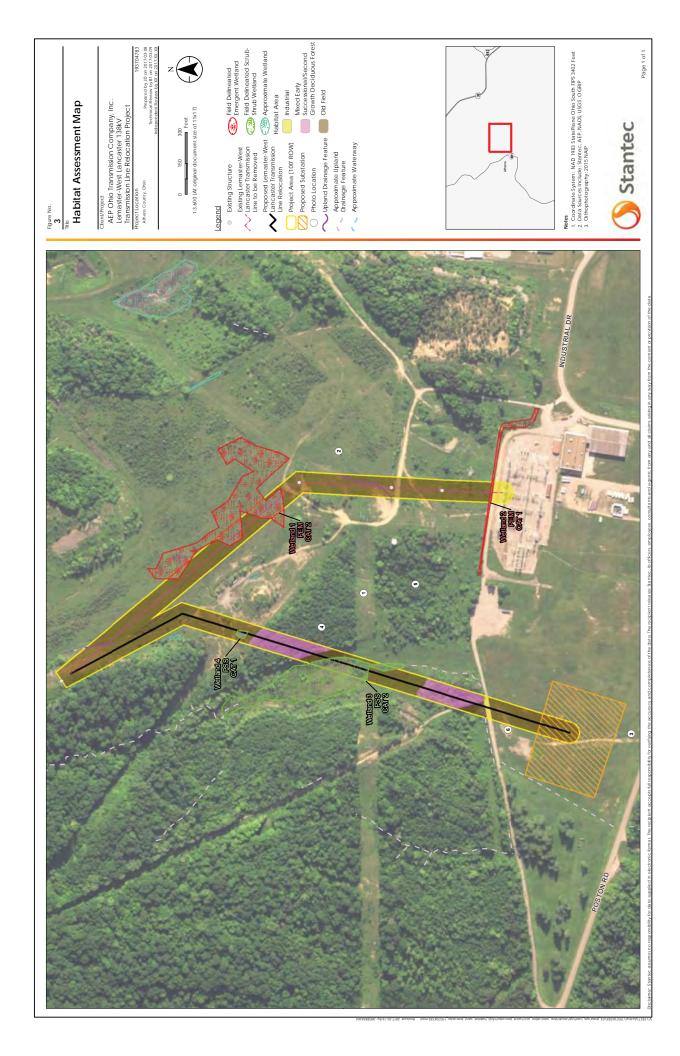
- Coordinate System: NAD 1983 StatePlane Ohio South FPS 3402 Feet

- Dens Sources Include: Stanter, AFP, NADS, FBNA, USCS, OGRIP

- Othopholography, 2015 NAP

A.3 FIGURE 3 – HABITAT ASSESSMENT MAP





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.

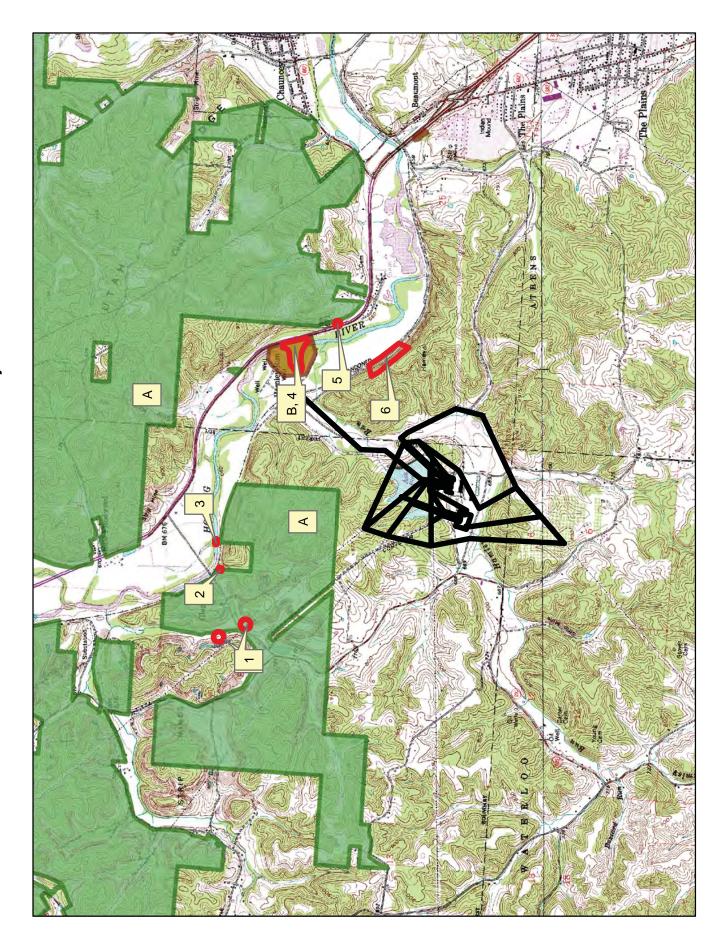
Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review 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:nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.usSubject: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.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥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

Appendix C Representative Photographs





AEP Ohio Transmission Company, Inc. Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Athens County, Ohio



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



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



AEP Ohio Transmission Company, Inc. Lemaster-West Lancaster 138 kV Transmission Line Relocation Project Athens County, Ohio



Photo Location 2. View of Wetland 1. Photograph taken facing southeast.



Photo Location 2. View of Wetland 1. Photograph taken facing northwest.





Photo Location 3. View of Wetland 2. Photograph taken facing northeast.



Photo Location 3. View of Wetland 2. Photograph taken facing east.





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



Photo Location 4. View of Wetland 4. Photograph taken facing west.





Photo Location 4. View of Wetland 4. Photograph taken facing northwest.



Photo Location 5. View of Wetland 3. Photograph taken facing east.





Photo Location 5. View of Wetland 3. Photograph taken facing southeast.



Photo Location 6. View of Wetland 3. Photograph taken facing south.





Photo Location 7. View of Wetland 3. Photograph taken facing east.



Photo Location 8. Representative view of upland drainage feature along existing roadway.





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



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





Photo Location 3. Representative view of old field habitat. Photograph taken facing north.



Photo Location 4. Representative view of mixed early successional/second growth forest habitat. Photograph taken facing north.





Photo Location 5. Representative view of mixed early successional/second growth forest habitat. Photograph taken facing south.



Photo Location 6. Representative view of industrial habitat. Photograph taken facing southwest.

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

Appendix D Data Forms

D.1 WETLAND DETERMINATION DATA FORMS





Remarks:

Fill material used to cap fly ash landfill

WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

	150/00/50	200			Eastern	Mountai	ins and Piedmont Regi	on			
Project/Site: Applicant:		West Lancaster 138 Electric Power	kV Transmis	sion Lin	e Reloca	tion	Stantec Project #:	193704783		Date: County:	11/08/16 Athens
Investigator #1:	Aaron Kwo	lek		Investi	igator #2:	Jody Ni	cholson			State:	Ohio
Soil Unit:	Water						NWI/WWI Classification:	PEM1C			Wetland 1
Landform:	Depression				al Relief:					Sample Point:	
Slope (%):	4%	Latitude:	39.38609642280		ongitude:				NAD83	Community ID:	
		ditions on the site ty	•		ear? (If no	, explain in r		☑ Yes □		Section:	1
		or Hydrology □ sig					Are normal circumsta		?	Township:	12N
		or Hydrology nat	turally proble	matic?			✓ Yes	□No		Range:	15W Dir:
SUMMARY OF Hydrophytic Ved		10		V/	NI-			l le coloi e O e il e	D10		V Na
Wetland Hydrol				✓ Yes	□ No)		Hydric Soils		Within A Wetla	✓ Yes □ No
Remarks:	ogy Freseni	.:			I INC			is This Sain	Jillig Follit	vviuiiii A vveud	and? Ves No
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<u>Primary:</u> ☑	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves			B6 - Surface Sc B8 - Sparsely Ve	getated Concave Surface
	A2 - High Wa									B10 - Drainage	
	A3 - Saturati			_	B14 - Tru	e Aquatic			_	B16 - Moss Trin	
	B1 - Water N					rogen Sulf				C2 - Dry Season	
	B2 - Sedimer B3 - Drift De						ospheres on Living Roots educed Iron			C8 - Crayfish B	urrows Visible on Aerial Imagery
	B4 - Algal Ma						eduction in Tilled Soils			D1 - Stunted or	
	B5 - Iron Dep					Muck Sur				D2 - Geomorph	
	B7 - Inundati	on Visible on Aerial Ima	agery		Other (Ex	cplain in Re	emarks)		✓	D3 - Shallow Ac	
									□	D4 - Microtopog D5 - FAC-Neutr	raphic Relief
F: 1101							1		V	D3 - 1 AC-Neuti	ai i est
Field Observat		V N-	Danth	2	(in)						
Surface Water		☑ Yes ☐ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes No
Water Table Pro		Yes No	Depth: Depth:		(in.) (in.)						
		☐ Yes ☑ No			, ,						
Describe Record		eam gauge, monitori							N/A		
Remarks:	No saturati	on or water table. V	Vater sitting	on top of	imperme	eable cla	y.				
SOILS											
Map Unit Name	:	Water					Series Dr	ainage Class:			
Taxonomy (Sub											
Profile Descrip	otion (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/	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 In	ndicators (check he	ere if indicato	rs are no	ot presen	t):_				Indicators for	Problematic Soils 1
□ A1- Histosol			S5 - Sandy Re		•		F12 - Iron-Manganes		MLRA 136)	A10 - 2cm N	
A2 - Histic Epipe			S6 - Stripped I				F13 - Umbric Surface		. 148)	7 ATO - COASEF	rairie Redox (MLRA 147, 148)
☐ A3 - Black Histid			S7 - Dark Surf S8 - Polyvalue		ark Surface	MIDA 147 1	F19 - Piedmont Floor	upiairi 30iis (MERA	(148) E	1 13 - 1 lealiioii	Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
☐ A5 - Stratified L			S9 - Thin Dark				F21 - Red Parent Ma	nterial (MLRA 127 14		11 12 VCIY	in in Remarks)
□ A10 - 2 cm Muc			F2 - Loamy GI			,	- TET ROUT GIOTE ME	meror ier, in	" [] Ott.io. (Exp.or	m m rtomanto,
☐ A11 - Depleted		urface 🗵	F3 - Depleted								
☐ A12 - Thick Dar			F6 - Redox Da								
□ S1 - Sandy Muc□ S4 - Sandy Gley		N, MLRA 147, 148)	F7 - Depleted					1 to discourse of building to	4:4-4: 4		
Restrictive Layer			F8 - Redox De							votialiu riyurulogy must be	present, unless disturbed or problematic.
(If Observed)	Type:	Rock		Depth:	12"			Hydric Soil	Present?		Yes _ No



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.					OBL spp. 65 x 1 = 65
	Total Cover =	0			FACW spp. 55 x 2 = 110
					FAC spp. 25 x 3 = 75
apling/Shrub S	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.					Yes No Dominance Test is > 50%
	Total Cover =	0			✓ Yes No Prevalence Index is ≤ 3.0 *
					Vos No Morphological Adaptations (Evoluin) *
lerb Stratum (F	Plot size: 5 ft radius)				Voc. No. Droblem Hydrophytic Vegetation (Cyplein) *
1.	Typha latifolia	20	Υ	OBL	
2.	Juncus effusus	30	Y	FACW	* In@ators of hydric soil and wetland hydrology must be
3.	Verbena urticifolia	10	N	FAC	present, unless disturbed or problematic.
4.	Carex frankii	5	Y	FACW	Definitions of Vegetation Strata:
5.	Carex lacustris	15	Ÿ	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.	Symphyotrichum lateriflorum	5	N	FACW	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.		15	N	FAC	ft. tall.
10.	Eupatorium serotinum	25	Y		
	Scirpus atrovirens			OBL	Herb - All herbaceous (non-woody) plants, regardless of size,
12.					Herb - All nerbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
13.					~
14.					All was desired as a COS St. 1.1.1.
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	150			
	atum (Plot size: 30 ft radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present Yes No
4.					
5.					
	Total Cover =	0			
Remarks:					
dditional R	omarke:				
uulliolidi K	ciliai no.				



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Project/Site:	Lemaster-\	Vest Lancaster 138	kV Transmis	ssion Line	e Reloca	tion Proje	Stantec Project #:	193704783		Date:	11/08/16
Applicant:	American E	Electric Power								County:	Athens
Investigator #1	: Aaron Kwo	lek		Investi	gator #2:	Jody Ni	cholson			State:	Ohio
Soil Unit:	Water					١	IWI/WWI Classification:	PEM1C		Wetland ID:	Wetland 1
Landform:	Terrace			Loc	al Relief:	Concav	е			Sample Point:	SP-2
Slope (%):	4%	Latitude:	39.38608843230		ongitude:			Datum:	NAD83	Community ID:	PEM
Are climatic/hy	drologic con	ditions on the site ty	pical for this	time of y	ear? (If no	, explain in re	emarks)	☑ Yes □	No	Section:	1
Are Vegetation	□ . Soil □ .	or Hydrology sig	nificantly dist	urbed?			Are normal circumsta	nces present	?	Township:	12N
Are Vegetation	п . Soil п .	or Hydrology □ nat	urally proble	matic?			Yes	□No		Range:	15W Dir:
SUMMARY OF		y	, p. c. c. c.							· · · · · · · · · · · · · · · · · · ·	
Hydrophytic Ve		sent?		□ Yes	. No			Hydric Soils	Present?		✓ Yes □ No
Wetland Hydro				□ Yes				Is This Same	oling Point \	Within A Wetla	and? Yes No
Remarks:	logy i resem			<u> </u>				is this camp	Jillig i Ollit i	Willim A Well	and: 163 M NO
Remarks.											
HYDROLOGY											
Wetland Hyd	ology Indic	ators (Check here i	f indicators a	re not pr	esent):□			Secondary:		
Primary		,								B6 - Surface Sc	oil Cracks
	A1 - Surface					er-Stained					egetated Concave Surface
	A2 - High Wa					uatic Faun				B10 - Drainage	
	A3 - Saturati					e Aquatic				B16 - Moss Trin	
	B1 - Water N B2 - Sedime					rogen Sulfi	de Odor spheres on Living Roots			C2 - Dry Season C8 - Crayfish Br	
	B3 - Drift De						educed Iron				Visible on Aerial Imagery
	B4 - Algal Ma						duction in Tilled Soils				Stressed Plants
	B5 - Iron Der					Muck Sur				D2 - Geomorph	
		on Visible on Aerial Ima	agery		Other (Ex	plain in Re	emarks)			D3 - Shallow Ac	
										D4 - Microtopog	
										D5 - FAC-Neutr	al Test
Field Observa	tions:										
Surface Water	Present?	☐ Yes ☑ No	Depth:		(in.)						
Water Table P		Yes No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes ☑ No
Saturation Pres		□ Yes ☑ No	Depth:		(in.)						
					. ,				N/A		
	ded Data (str										
		eam gauge, monitorii	•				**		IV/A		
Remarks:		on or water table. V	•				**		N/A		
Remarks:			•				**		N/A		
			•				**		N/A		
Remarks: SOILS Map Unit Name	No saturati		•				<i>i.</i>	ainage Class:	N/A		
Remarks: SOILS Map Unit Name Taxonomy (Su	No saturati	on or water table. V	Vater sitting of	on top of	imperme	eable clay	y. Series Dra				
Remarks: SOILS Map Unit Name Taxonomy (Su	No saturati	on or water table. V	Vater sitting of	on top of	imperme	eable clay	y. Series Dra			g, M=Matrix)	
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri	No saturati	on or water table. V	Vater sitting (on top of	imperme	eable clay	Series Dra			ı, M=Matrix)	Texture
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri	No saturati e: bgroup): ption (Describe to Bottom	on or water table. V Water the depth needed to document the inc	Vater sitting of	on top of	rs.) (Type: C=Cd	eable clay	Series Dra	Coated Sand Grains; Loc	ation: PL=Pore Lining	ı	
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth	No saturati e: bgroup): ption (Describe to Bottom Depth	On or water table. V Water the depth needed to document the inc Horizon	Vater sitting of	on top of sence of indicato Matrix loist)	rs.) (Type: C=Cd	oncentration, D=L	Series Dra Sepletion, RM-Reduced Matrix, CS-Covered/ Color (Moist)	Coated Sand Grains; Loc Mottles	ation: PL=Pore Lining	Location	(e.g. clay, sand, loam)
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0	No saturati e: bgroup): ption (Describe to	Water Water Horizon	Vater sitting of sicetor or confirm the abs	sence of indicato Matrix Moist) 4/4	rs.) (Type: C=Cd	oncentration, D=t	Series Dra Sepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8	Coated Sand Grains; Loc Mottles % 10	ation: PL=Pore Lining Type C	Location M	(e.g. clay, sand, loam) clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0	No saturati e: bgroup): ption (Describe to Depth 16 16	Water Water Horizon 1	Vater sitting of sicator or confirm the abs	on top of sence of indicato Matrix Moist) 4/4 5/1	rs.) (Type: C=Cc	oncentration, D=t	Series Dra Sepletion, RM-Reduced Matrix, CS-Covered/ Color (Moist) 6/8 7/4	Coated Sand Grains; Loc Mottles % 10 10	ation: PL=Pore Lining Type C C	Location M M	(e.g. clay, sand, loam) clay loam clay loam
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16	Water Water Horizon 1	Scator or confirm the abe Color (N 10YR 10YR	on top of sence of indicato Matrix floist) 4/4 5/1	rs.) (Type: C=Cd % 35 35	oncentration, D=E 10YR 5Y 5YR	Series Dra Series Dra Depletion, RM-Reduced Matrix, CS-Covered/t Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Mottles % 10 10 10	ation: PL=Pore Lining Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0	No saturati e: bgroup): ption (Describe to Depth 16 16	Water Water Horizon 1	Vater sitting of sicator or confirm the abs	on top of sence of indicato Matrix Moist) 4/4 5/1	rs.) (Type: C=Cc	oncentration, D=t	Series Dra Sepletion, RM-Reduced Matrix, CS-Covered/ Color (Moist) 6/8 7/4	Coated Sand Grains; Loc Mottles % 10 10	ation: PL=Pore Lining Type C C	Location M M	(e.g. clay, sand, loam) clay loam clay loam
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16	Water Water Horizon 1	Scator or confirm the abe Color (N 10YR 10YR	on top of sence of indicato Matrix floist) 4/4 5/1	rs.) (Type: C=Cd % 35 35	oncentration, D=E 10YR 5Y 5YR	Series Dra Series Dra Depletion, RM-Reduced Matrix, CS-Covered/t Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Mottles % 10 10 10	ation: PL=Pore Lining Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16	Water Horizon 1	Vater sitting (Sicator or confirm the abe Color (N 10YR 10YR	on top of sence of indicato Matrix floist) 4/4 5/1	mperme rs.) (Type: C=Ce % 35 35	oncentration, D=1 10YR 5Y 5YR	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/t Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Mottles % 10 10	ation: PL=Pore Lining Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16	Water Water Horizon 1	dicator or confirm the abo	sence of indicato Matrix Moist) 4/4 5/1	(Type: C=Cc) % 35 35	oncentration, D=1 10YR 5Y 5YR	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Mottles % 10 10	ation: PL=Pore Lining Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0	e: bgroup): ption (Describe to Bottom Depth 16 16	Water Water Horizon 1	Vater sitting of sitti	sence of indicator Matrix Moist) 4/4 5/1	(s.) (Type: C=Ce (s.) (oncentration, D=D 10YR 5Y 5YR	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/t Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Mottles % 10 10	ation: PL=Pore Lining Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0	e: bgroup): ption (Describe to Bottom Depth 16 16	Water Water Horizon 1	Sicator or confirm the abs	sence of indicato Matrix floist) 4/4 5/1	(rs.) (Type: C=Cc	oncentration, D=E	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Wottles 96 10 10	ation: PL=Pore Lining Type C C C	Location M M M	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 NRCS Hydric	e: bgroup): ption (Describe to Bottom Depth 16 16	Water Horizon 1	dicator or confirm the abs	sence of indicato Matrix Moist) 4/4 5/1 rs are no	(rs.) (Type: C=Cc	oncentration, D=E	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4	Coated Sand Grains; Loc Wottles % 10 10 10	ation: PL=Pore Lining Type C C C	Location M M M Indicators for	(e.g. clay, sand, loam) clay loam clay loam clay loam r Problematic Soils 1
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16 Soil Field In	Water Water the depth needed to document the inc Horizon 1	Scator or confirm the abe Color (N 10YR 10YR	sence of Indicator Matrix Toist) 4/4 5/1 rs are noddox	(rs.) (Type: C=Cc	oncentration, Det	Series Dra Series Dra Sepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes	Coated Sand Grains; Loc Wottles % 10 10 e Masses (LRR N.	ation: PL=Pore Lining Type C C C	Location M M M Indicators for A10 - 2cm N	(e.g. clay, sand, loam) clay loam clay loam clay loam TProblematic Soils 1
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epip	No saturati e: bdgroup): ption (Describe to Bottom Depth 16 16 Soil Field In	Water Water Horizon 1 ndicators (check he	Vater sitting of sitti	sence of indicator Matrix Moist) 4/4 5/1	(rs.) (Type: C=Cc	oncentration, Det	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface	Coated Sand Grains; Loc Wottles 96 10 10 Masses (LRR N, 2) (MLRA 122, 136)	ation: PL=Pore Lining Type C C MLRA 136)	Location M M M Indicators for A10 - 2cm M A16 - Coast P	(e.g. clay, sand, loam) clay loam clay loam clay loam r Problematic Soils 1 Nuck (MLRA 147) Prairie Redox (MLRA 147, 148)
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16 Soil Field In	Water Water Horizon 1	Scator or confirm the abe Color (N 10YR 10YR	sence of indicato Matrix floist) 4/4 5/1	(s.) (Type: C=Cc	oncentration, D=E	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Coated Sand Grains; Loc Wottles 96 10 10 Masses (LRR N, 2) (MLRA 122, 136)	ation: PL=Pore Lining Type C C C MLRA 136) C 1448)	Location M M M Indicators for A10 - 2cm N A16 - Coast P F19 - Piedmon TF12 - Very	(e.g. clay, sand, loam) clay loam clay loam clay loam TProblematic Soils 1
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Hist A4 - Hydrogen	No saturati bigroup): ption (Describe to Bottom Depth 16 16 Soil Field In Deciding	Water Horizon 1 ndicators (check he	Color (N 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	sence of indicato Matrix Moist) 4/4 5/1 rs are no	% 35 35 ot present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles 9% 10 10 10 e Masses (LRR N, 8) (MLRA 122, 136)	ation: PL=Pore Lining Type C C C	Location M M M Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla)	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epi A3 - Black Hist	No saturati e: bgroup): ption (Describe to Bottom Depth 16 16 Soil Field In bedon ic Sulfide Layers	Water Water Horizon 1 ndicators (check he	Vater sitting of Section or confirm the absolute of Section 1	mence of indicator Matrix Toist) 4/4 5/1	mperme y y 35 35 tr present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Coated Sand Grains; Loc Wottles 9% 10 10 10 e Masses (LRR N, 8) (MLRA 122, 136)	ation: PL=Pore Lining Type C C C MLRA 136)	Location M M M Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla)	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epir A3 - Black Hist A4 + Hydrogen A5 - Stratified	No saturati e: bdgroup): ption (Describe to Bottom Depth 16 16 Soil Field In Dedon ic Sulfide Layers Laye	Water Water Horizon 1 ndicators (check he	Scator or confirm the about the solution of th	serice of indicator Matrix Moist) 4/4 5/1	mperme y y 35 35 tr present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles 9% 10 10 10 e Masses (LRR N, 8) (MLRA 122, 136)	ation: PL=Pore Lining Type C C C	Location M M M Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla)	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Hist A4 - Hydrogen A5 - Stratified A10 - 2 cm Mu A11 - Depleted A12 - Thick Da	No saturati bigroup): ption (Describe to Bottom Depth 16 16 Soil Field In Dedon ic Sulfide ayers ck (LRR N) Bellow Dark S rk Surface	Water Water the depth needed to document the inc Horizon 1	Color (N 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	sence of indicator Matrix Toist) 4/4 5/1 rs are no edox Matrix face Below Da s Surface (Beyed Matr Matirx Matirx face Surface (Surfac	rs.) (Type: C=Cc	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles 9% 10 10 10 e Masses (LRR N, 8) (MLRA 122, 136)	ation: PL=Pore Lining Type C C C	Location M M M Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla)	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam. Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Hist A4 - Hydrogen A5 - Stratified (I) A10 - 2 cm Mu A11 - Depletec A12 - Thick Da S1 - Sandy Mu	No saturati b: bgroup): ption (Describe to Bottom Depth 16 16 Soil Field In Dedon ic Sulfide Layers ck (LRR N) Below Dark S rk Surface ck Mineral (LRR ce)	Water Water the depth needed to document the inc Horizon 1	Vater sitting of Vater	sence of indicator Matrix Toist) 4/4 5/1 rs are no dedox Matrix face e Bellow Da Surface (leyed Matrix Matrix Matrix Ark Surface of Leyed Matrix Matrix Ark Surface of Leyed Matrix Matrix	imperme y y 35 35 bt present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles % 10 10 10 e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA 127, 14	ation: PL=Pore Lining Type C C C MLRA 136) L148) C 7)	Location M M M Indicators for A10 - 2cm N A16 - Coast P F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) clay loam clay loam clay loam r Problematic Soils fuck (MLRA 147) rairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epi A3 - Black Hist A4 - Hydrogen A5 - Stratified I A10 - 2 cm Mu A11 - Depletec A12 - Thick Da S1 - Sandy Mu S4 - Sandy Gle	No saturati b: bgroup): ption (Describe to Bottom Depth 16 16 Soil Field In Dedon ic Sulfide Layers ck (LRR N) Below Dark S rk Surface ck Mineral (LRR ce)	Water Water Horizon 1 ndicators (check he	Color (N 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	sence of indicator Matrix Toist) 4/4 5/1 rs are no dedox Matrix face e Bellow Da Surface (leyed Matrix Matrix Matrix Ark Surface of Leyed Matrix Matrix Ark Surface of Leyed Matrix Matrix	imperme y y 35 35 bt present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles % 10 10 10 e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA 127, 14	ation: PL=Pore Lining Type C C C MLRA 136) L148) C 7)	Location M M M Indicators for A10 - 2cm N A16 - Coast P F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epi A3 - Black Hist A4 - Hydrogen A5 - Stratified A10 - 2 cm Mu A11 - Depletec A12 - Thick Da S1 - Sandy Mu S4 - Sandy Mu Restrictive Layer	No saturati e: bgroup): ption (Describe to Depth 16 16 16 17 Soil Field In Depth 16 16 16 16 16 16 16 16 16 16 16 16 16	Water Water the depth needed to document the inc Horizon 1	Vater sitting of Vater	sence of indicator Matrix Toist) 4/4 5/1 rs are no dedox Matrix face e Bellow Da Surface (leyed Matrix Matrix Matrix Ark Surface of Leyed Matrix Matrix Ark Surface of Leyed Matrix Matrix	imperme y y 35 35 bt present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles 9/6 10 10 10 e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	ation: PL=Pore Lining Type C C C MLRA 136) L148) C 7) C C C	Location M M M Indicators for A10 - 2cm N A16 - Coast P F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) clay loam clay loam clay loam clay loam
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epi A3 - Black Hist A4 - Hydrogen A5 - Stratified A10 - 2 cm Mu A11 - Depletec A12 - Thick Da S1 - Sandy Mu S4 - Sandy Mu S4 - Sandy Mu Restrictive Layer (If Observed)	No saturati e: bgroup): ption (Describe to Depth 16 16 Soil Field In Dedon ic Sulfide Layers Ck (LRR N) Below Dark S rk Surface ck Mineral (LRR EVed Matrix Type:	Water Water the depth needed to document the inc Horizon 1	Vater sitting of Vater	sence of indicato Matrix floist) 4/4 5/1	(s.) (Type: C=Cc % 35 35 st present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles % 10 10 10 e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA 127, 14	ation: PL=Pore Lining Type C C C MLRA 136) L148) C 7) C C C	Location M M M Indicators for A10 - 2cm N A16 - Coast P F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) clay loam clay loam clay loam r Problematic Soils fuck (MLRA 147) rairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
Remarks: SOILS Map Unit Nam Taxonomy (Su Profile Descri Top Depth 0 0 NRCS Hydric A1- Histosol A2 - Histic Epi A3 - Black Hist A4 - Hydrogen A5 - Stratified A10 - 2 cm Mu A11 - Depletec A12 - Thick Da S1 - Sandy Mu S4 - Sandy Mu Restrictive Layer	No saturati e: bgroup): ption (Describe to Depth 16 16 Soil Field In Dedon ic Sulfide Layers Ck (LRR N) Below Dark S rk Surface ck Mineral (LRR EVed Matrix Type:	Water Water Horizon 1 ndicators (check he	Vater sitting of Vater	sence of indicato Matrix floist) 4/4 5/1	(s.) (Type: C=Cc % 35 35 st present	oncentration, D=0 10YR 5Y 5YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 7/4 5/4 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Wottles 9/6 10 10 10 e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14	ation: PL=Pore Lining Type C C C MLRA 136) L148) C 7) C C C	Location M M M Indicators for A10 - 2cm N A16 - Coast P F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) clay loam clay loam clay loam clay loam



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 1

Eastern Mountains and Piedmont Region

(.	Species Name	% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.					
2.					Number of Dominant Species that are OBL, FACW, or FAC: 0 (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: 0.0% (A/B)
7.					(* *=)
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBI spp 0 x 1 = 0
	Total Cover =	- 0			FACW spp. 2
	10001				FAC spp. $\frac{25}{25}$ x 3 = $\frac{75}{75}$
Sanling/Shruh S	tratum (Plot size: 15 ft radius)				FACU spp. 83
1.					$\begin{array}{cccccccccccccccccccccccccccccccccccc$
2.					
3.					Total 110 (A) 411 (B)
4.					(0)
5.					Prevalence Index = B/A = 3.736
6.					1 TOVAROTION TIMON — DITA — 0.700
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Ves No Dominance Test is > 50%
10.	Total Cover =				✓ Yes No Prevalence Index is ≤ 3.0 *
	Total Gover -	- 0			
Llash Chrahum (F	let sien. Ett medice)				Yes No Morphological Adaptations (Explain) *
1.	lot size: 5 ft radius) Trifolium pratense	15	Υ	FACU	Yes No Problem Hydrophytic Vegetation (Explain) *
2.	•	15	Y	FACU	
3.	Medicago lupulina	30	Y	FACU	present, unless disturbed or problematic.
3. 4.	Schedonorus arundinaceus			FACW	Definitions of Versetation Strates
5.	Vernonia gigantea	2	N N		Definitions of Vegetation Strata:
	Lactuca canadensis	3		FACU	Total
6	Daucus carota	10	N	UPL	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
7.	Desmodium canadense	10	N	FAC	bleast neight (DBH), regardless of neight.
8.	Euthamia graminifolia	10	N	FAC	O I' (O) I We only plante less than 2 in DDI land greater than 2.20
9.	Quercus imbricaria	5	N	FAC	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.	Trifolium repens	5	N	FACU	
11.	Solidago altissima	15	N	FACU	
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.
	Total Cover =	120			
	atum (Plot size: 30 ft radius)				
1.					
2.					Hadamhadh Va. 4 (1. B. 4.)
3.					Hydrophytic Vegetation Present Yes No
4.					
5.	Total Course				
<u> </u>	Total Cover =	= 0			
Remarks:					
Additional R	emarks:				
1					
1					



WETLAND DETERMINATION DATA FORM

¥	LILMIN	DEIERIV		IDAIA	OKI
	Eastern	Mountains	and Piedr	nont Reg	ion

Project/Site:	Lemaster-	West Lancaster 138	kV Transmis	ssion Line	e Relocat	ion Proie	Stantec Project #:	193704783		Date:	11/07/16
Applicant:		Electric Power	itt Tranomic	JOIOIT EIII	o i toloodi		Ciamoo i rojoot ".	100101100		County:	Athens
Investigator #1:				Invocti	actor #2.	lady Ni	choloon			State:	Ohio
				IIIVESII	gator #2:			Mana			
Soil Unit:		t loam, 0 to 3 percer	it slopes				IWI/WWI Classification:	none		Wetland ID:	
Landform:		1 44 1			al Relief:					Sample Point:	
Slope (%):	4%		39.38321744510		ongitude:				NAD83	Community ID:	
		ditions on the site ty	•		ear? (If no,	explain in r	•	☑ Yes □	No	Section:	1
		or Hydrology □ sig					Are normal circumstar	nces present?	•	Township:	12N
Are Vegetation	」, Soil 🗖 ,	or Hydrology nat	turally proble	matic?			Yes	□ No		Range:	15W Dir:
SUMMARY OF	FINDINGS										
Hydrophytic Ve	getation Pre	esent?		- Yes	□ No			Hydric Soils	Present?		
Wetland Hydrol					□ No					Within A Wetla	
Remarks:	ogy i rocom			<u>M</u> 100				io mio camp	anig i onic i	viami, vi vvode	211d. 2 100 110
rtomants.											
HVDDOL OOV											
HYDROLOGY											
Wetland Hydro	ology Indic	ators (Check here i	f indicators a	re not pr	esent):□			Secondary:		
Primary:						<i>,</i> L				B6 - Surface Sc	il Cracks
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves				egetated Concave Surface
	A2 - High W	ater Table			B13 - Aqu	atic Faun	a			B10 - Drainage	Patterns
	A3 - Saturati	ion			B14 - Tru					B16 - Moss Trin	
	B1 - Water N				C1 - Hydr					C2 - Dry Seaso	
	B2 - Sedime						spheres on Living Roots			C8 - Crayfish B	
	B3 - Drift De						educed Iron				Visible on Aerial Imagery
	B4 - Algal M						eduction in Tilled Soils		_		Stressed Plants
	B5 - Iron De		2000		C7 - Thin					D2 - Geomorph	
	b/ - munuau	ion Visible on Aerial Ima	agery		Other (Ex	piain in Ke	emarks)			D3 - Shallow Ac D4 - Microtopoo	
										D5 - FAC-Neutr	
Field Observed							I		· ·		
Field Observat					<i>(</i> ,)						
Surface Water		☐ Yes ☐ No	Depth:		(in.)			Wetland Hyd	drology Pr	esent?	Yes □ No
Water Table Pr	esent?	☐ Yes ☑ No	Depth:		(in.)			rrottana riy	an ology		100 110
Saturation Pres	ent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Record	led Data (etr	ream gauge, monitori	na well perial	nhotoe r	revious ir	nenaction	s) if available:		N/A		
	ieu Data (Sti	eam gauge, monitori	ing well, aeriai	priotos, p	nevious ii	ispection	s), ii available.		14/71		
Remarks:											
SOILS											
Map Unit Name):	Fitchvill silt loam, 0	to 3 percent	slopes			Series Dra	ainage Class:	Somewhat	poorly draine	d
Taxonomy (Sub											
Profile Descrip	otion (Describe to	the depth needed to document the in-	dicator or confirm the abs	sence of indicator	rs.) (Type: C=Co	ncentration, D=I	Depletion, RM=Reduced Matrix, CS=Covered/0	Coated Sand Grains; Loca	ation: PL=Pore Lining	, M=Matrix)	
Top	Bottom			Matrix				Mottles			Texture
Depth	Depth	Horizon	Color (N	loist)	%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	10	1	10YR	4/2	90	10YR	6/8	10	C	M	silt loam
	+	· · · · · · · · · · · · · · · · · · ·		+							Siit ioairi
•			 								
									_		
											!
											1
NRCS Hydric		 ndicators (check he	 ere if indicato	rs are no						Indicators for	Problematic Soils 1
NRCS Hydric	 Soil Field I	ndicators (check he	ere if indicato S5 - Sandy Re	rs are no			F12 - Iron-Manganes	e Masses (LRR N.	MLRA 136)	Indicators for A10 - 2cm M	r Problematic Soils 1 luck (MLRA 147)
NRCS Hydric A1- Histosol A2 - Histic Epipe	Soil Field In	 ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped	rs are no edox Matrix			F12 - Iron-Manganes	e Masses (LRR N,	MLRA 136)	A10 - 2cm M A16 - Coast P	r Problematic Soils ¹ luck (MLRA 147) trairie Redox (MLRA 147, 148)
NRCS Hydric A1- Histosol A2 - Histic Epipe A3 - Black Histic	Soil Field In	 ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Suri	rs are no edox Matrix face	 t present):	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	e Masses (LRR N,	MLRA 136)	A10 - 2cm M A16 - Coast P F19 - Piedmon	r Problematic Soils ¹ luck (MLRA 147) trairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147)
NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S	Soil Field In edon c Sulfide	 ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Suri S8 - Polyvalue	rs are no edox Matrix face Below Da	 ot present ork Surface	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA	MLRA 136)	A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very	r Problematic Soils ¹ luck (MLRA 147) rrairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
NRCS Hydric A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified L	edon c Sulfide ayers	ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Suri S8 - Polyvalue S9 - Thin Dark	rs are no edox Matrix face Below Da	t present ark Surface	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA	MLRA 136)	Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ luck (MLRA 147) trairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147)
NRCS Hydric A1- Histosol A2 - Histic Epipe A3 - Black Histit A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc	edon c Sulfide ayers	 ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G	rs are no edox Matrix face Below Da & Surface (leyed Matri	t present ark Surface	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA	MLRA 136) 148) C	Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ luck (MLRA 147) rrairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc	edon c Sulfide ayers ck (LRR N) Below Dark S	ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted	rs are no edox Matrix face Below Da & Surface (leyed Matr Matirx	t present irk Surface MLRA 147, 148, ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA	MLRA 136) 148) C	Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ luck (MLRA 147) rrairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
NRCS Hydric A1- Histosol A2 - Histic Epip. A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar	edon c Sulfide ayers sk (LRR N) Below Dark S	ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da	rs are no edox Matrix face Below Da & Surface (I leyed Matr Matirx ark Surface	ot present urk Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA	MLRA 136) 148) C	Indicators for A10 - 2cm M A16 - Coast P F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ luck (MLRA 147) rrairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
NRCS Hydric A1- Histosol A2 - Histic Epip. A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc	edon c Sulfide ayers ck (LRR N) Below Dark S k Surface ck Mineral (LRR	ndicators (check he	re if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix frace a Below Da c Surface (leyed Matr Matirx Matirx Matr Surface Dark Surface Dark Surface	ork Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14;	MLRA 136) 148) C 7)	Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ luck (MLRA 147) rrairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
NRCS Hydric A1- Histosol A2 - Histic Epip. A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar	edon c Sulfide ayers k (LRR N) Below Dark S k Surface sk Mineral (LRR yed Matrix	ndicators (check he	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da	rs are no edox Matrix face Below Da & Surface (I leyed Matr Matirx Ark Surface Dark Surface	ort present ork Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14;	MLRA 136) 148) C 7) C tic vegetation and w	Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Problematic Soils 1 Juck (MLRA 147) Trairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley	edon c Sulfide ayers k (LRR N) Below Dark S k Surface sk Mineral (LRR yed Matrix	ndicators (check he	re if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix frace a Below Da c Surface (leyed Matr Matirx Matirx Matr Surface Dark Surface Dark Surface	ort present ork Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14;	MLRA 136) 148) C 7) C tic vegetation and w	Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Problematic Soils 1 luck (MLRA 147) rairie Redox (MLRA 147, 148) Floodplain Soils (MLRA 196, 147) Shallow Dark Surface in in Remarks)
NRCS Hydric A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley Restrictive Layer (If Observed)	edon c Sulfide ayers k (LRR N) Below Dark S k Surface sk Mineral (LRR yed Matrix	ndicators (check he	re if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix face Below Da & Surface (I leyed Matr Matirx Ark Surface Dark Surface	ort present ork Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14;	MLRA 136) 148) C 7) C tic vegetation and w	Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils 1 luck (MLRA 147) trairie Redox (MLRA 147, 148) tr Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
NRCS Hydric A1- Histosol A2 - Histic Epip. A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley Restrictive Layer	edon c Sulfide ayers k (LRR N) Below Dark S k Surface sk Mineral (LRR yed Matrix	ndicators (check he	re if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix face Below Da & Surface (I leyed Matr Matirx Ark Surface Dark Surface	ort present ork Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14;	MLRA 136) 148) C 7) C tic vegetation and w	Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils 1 luck (MLRA 147) trairie Redox (MLRA 147, 148) tr Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
NRCS Hydric A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley Restrictive Layer (If Observed)	edon c Sulfide ayers k (LRR N) Below Dark S k Surface sk Mineral (LRR yed Matrix	ndicators (check he	re if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix face Below Da & Surface (I leyed Matr Matirx Ark Surface Dark Surface	ort present ork Surface MLRA 147, 148; ix	(MLRA 147, 1	F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood	e Masses (LRR N, 2 (MLRA 122, 136) dplain Soils (MLRA terial (MLRA 127, 14;	MLRA 136) 148) C 7) C tic vegetation and w	Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils 1 luck (MLRA 147) trairie Redox (MLRA 147, 148) tr Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)



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

	Species Name		% Cover D	ominant	Ind.Status	Dominance Test Worksheet
1.		•				
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: 100.0% (A/B)
7.						
8.					-	Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.						OBL spp. 80 x 1 = 80
		Total Cover =	0			FACW spp. 30 x 2 = 60
						FAC spp. $0 \times 3 = 0$
	tratum (Plot size: 15 ft radius)					FACU spp. $0 x 4 = 0$
1.						UPL spp. $0 x 5 = 0$
2.						
3.						Total 110 (A) 140 (B)
4.						B
5.						Prevalence Index = B/A =
6.						
7.						Undershield Variation Indicators
8.						Hydrophytic Vegetation Indicators:
9. 10.						Yes No Rapid Test for Hydrophytic Vegetation
10.		Total Cover =				Yes No Dominance Test is > 50%
		Total Cover =	0			Yes □ No Prevalence Index is ≤ 3.0 *
						Yes No Morphological Adaptations (Explain) *
	lot size: 5 ft radius)		70	Υ	OBL	Yes No Problem Hydrophytic Vegetation (Explain) *
1.	Typha X glauca				OBL	* In@tators of hydric soil and wetland hydrology must be
2. 3.	Phalaris arundinacea		20 5	N N	FACW OBL	present, unless disturbed or problematic.
3. 4.	Angelica atropurpurea		5	N		Definitions of Vegetation Strata:
4. 5.	Rosa palustris		5	N	FACW	Definitions of vegetation Strata:
	Solidago gigantea					Tree
6 7.	Scirpus atrovirens		5	N 	OBL 	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
8.						breast reight (bb1), regardiess of neight.
						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
0						ft. tall.
9.						
10.						
10. 11.						Horh - All herbaceous (non-woody) plants, regardless of size.
10. 11. 12.						Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
10. 11. 12. 13.			 			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
10. 11. 12. 13. 14.	 		 			and woody plants less than 3.28 ft. tall.
10. 11. 12. 13.		Total Cover –	 			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height.
10. 11. 12. 13. 14.	 	Total Cover =	 			and woody plants less than 3.28 ft. tall.
10. 11. 12. 13. 14.		Total Cover =	 			and woody plants less than 3.28 ft. tall.
10. 11. 12. 13. 14. 15.	 	Total Cover =	 			and woody plants less than 3.28 ft. tall.
10. 11. 12. 13. 14. 15. Woody Vine Stra		Total Cover =	 110			and woody plants less than 3.28 ft. tall.
10. 11. 12. 13. 14. 15.	atum (Plot size: 30 ft radius)	Total Cover =	 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height.
10. 11. 12. 13. 14. 15. Woody Vine Stra 1.	atum (Plot size: 30 ft radius)	Total Cover =	 110			and woody plants less than 3.28 ft. tall.
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3.	atum (Plot size: 30 ft radius)	Total Cover =	 110	 	 	and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2.	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height.
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3.	atum (Plot size: 30 ft radius)	Total Cover =	 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4.	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4.	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4. 5. Remarks:	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4.	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4. 5. Remarks:	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4. 5. Remarks:	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No
10. 11. 12. 13. 14. 15. Woody Vine Stra 1. 2. 3. 4. 5. Remarks:	atum (Plot size: 30 ft radius)		 110			and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height. Hydrophytic Vegetation Present Yes No



Remarks:

WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

					Eastern	Mountai	ns and Piedmont Regi	on			
Project/Site: Applicant: Investigator #1:	American I	West Lancaster 138 Electric Power olek	kV Transmis		e Relocatigator #2:		•	193704783		Date: County: State:	11/07/16 Athens Ohio
Soil Unit:		ilt loam, 0 to 3 perce	ent slops				NWI/WWI Classification:	None		Wetland ID:	
Landform:			•	Loc	al Relief:	Convex				Sample Point:	SP-4
Slope (%):	4%	Latitude:	39.38319645410	L	ongitude:	-82.180	26061	Datum:	NAD83	Community ID:	Upland
Are climatic/hyd	Irologic con	ditions on the site ty	pical for this	time of y	ear? (If no.	, explain in r	emarks)	☑ Yes □	No	Section:	1
Are Vegetation	」, Soil □,	or Hydrology □ sig	nificantly dist	urbed?			Are normal circumsta	nces present?	?	Township:	12N
Are Vegetation	」, Soil □,	or Hydrology nat					Yes	□No		Range:	15W Dir:
SUMMARY OF	FINDINGS										
Hydrophytic Ved	getation Pre	sent?		□ Yes	. ⊿ No	1		Hydric Soils	Present?		☐ Yes ☑ No
Wetland Hydrol	ogy Presen	t?		□ Yes	i ☑ No)		Is This Samp	oling Point	Within A Wetla	and? FYes No
Remarks:									_		
HYDROLOGY											
		ators (Check here i	f indicators a	re not pr	esent): _[]			Secondary:		
Primary:		147.1.			DO 14/	0	1		_	B6 - Surface Sc	
	A1 - Surface A2 - High W			_	B9 - Wate B13 - Aqu				_	B8 - Sparsely Ve B10 - Drainage	egetated Concave Surface
	A3 - Saturati									B16 - Moss Trin	
	B1 - Water N				C1 - Hydr	ogen Sulf	ide Odor			C2 - Dry Seaso	
	B2 - Sedime						ospheres on Living Roots			C8 - Crayfish B	
	B3 - Drift De						educed Iron				Visible on Aerial Imagery
	B4 - Algal Ma B5 - Iron De				C7 - Thin		eduction in Tilled Soils			D2 - Geomorph	Stressed Plants
		ion Visible on Aerial Ima	agery		Other (Ex					D3 - Shallow Ac	
					,		,			D4 - Microtopog D5 - FAC-Neutr	
Field Observat	ions:										
Surface Water I	Present?	☐ Yes 🕝 No	Depth:		(in.)			Wetland Hy	drology Dr	200mt2	Voc. No.
Water Table Pro	esent?	☐ Yes ☑ No	Depth:		(in.)			wettand ny	urology Fr	esent:	Yes ☑ No
Saturation Pres	ent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Record	ed Data (str	eam gauge, monitorii	ng well, aerial	photos.	previous ir	nspection	s), if available:		N/A		
Remarks:	(11	34.34,	3 , , , , , ,	1,			7,1				
SOILS											
Map Unit Name		Fitchville silt loam,	0 to 3 parcor	t clone			Sorios Dr	ainago Class:	Somowha	t poorly draine	d
Taxonomy (Sub		TROTTVILLE SILL TOUTH,	o to o percer	it olopo			Ceries Di	amage Olass.	Comewna	t poorty draine	<u>u</u>
		the death needed to document the inc	licator or confirm the abo	conce of indicate	ore) (Tupo: C=Co	oncentration D-	Depletion, RM=Reduced Matrix, CS=Covered/	Coated Sand Grains: Loc	ation: PI -Pore Lining	M_Matrix)	
Top	Bottom	the departneeded to document the inc		Matrix	ла.) (Туре. 0=00	Dicentiation, D=		Mottles	auon. 1 L=1 ore Lining	g, wi–ividu ixj	Texture
Depth	Depth	Horizon	Color (N		%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	6	1	10YR	4/4	100						silt loam
NRCS Hydric	Soil Field I	ndicators (check he	ere if indicato	rs are no	ot present	t):_				Indicators for	Problematic Soils 1
☐ A1- Histosol		` _	S5 - Sandy Re		•	′ 🗆	F12 - Iron-Manganes	e Masses (LRR N,	MLRA 136)	A10 - 2cm M	
☐ A2 - Histic Epipe			S6 - Stripped				F13 - Umbric Surface		.440)	TIO - COASE F	rairie Redox (MLRA 147, 148)
□ A3 - Black Histic			S7 - Dark Surf		ark Curfood		F19 - Piedmont Floor	dplain Soils (MLRA	(148) C	, FIS-FIEUMON	t Floodplain Soils (MLRA 136, 147)
☐ A4 - Hydrogen S☐ A5 - Stratified La			S8 - Polyvalue S9 - Thin Dark				F21 - Red Parent Ma	iterial (MI BA 197 14		, II 12 - Very	Shallow Dark Surface in in Remarks)
☐ A10 - 2 cm Muc			F2 - Loamy G			,	□ 121 - Neu r arent wa	ILOTIOI (WENA 127, 14	" .	J Cirici (Expla	ar ar Romanoj
□ A11 - Depleted			F3 - Depleted								
□ A12 - Thick Dar			F6 - Redox Da	ark Surfac							
☐ S1 - Sandy Muc		N, MLRA 147, 148)	F7 - Depleted								
S4 - Sandy Gley Restrictive Layer			F8 - Redox De								e present, unless disturbed or problematic.
(If Observed)	Type:	Rock		Depth:	6"			Hydric Soil	Present?		Yes No



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

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 2

Eastern Mountains and Piedmont Region

	(Species identified in all uppercas lot size: 30 ft radius)	se are non-native s	species.)			
Tree Stratum (r	Species Name		% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.						
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.						(185)
8.						Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.						OBL spp. 0 x 1 = 0
		Total Cover =	0			FACW spp. 5 X 2 = 10
						FAC spp. 10 x 3 = 30
Sapling/Shrub St	ratum (Plot size: 15 ft radius)					FACU spp. 82 x 4 = 328
1.	'					UPL spp. 0 x 5 = 0
2.						··· -
3.						Total 97 (A) 368 (B)
4.						· ,· ,
5.						Prevalence Index = B/A = 3.794
6.						
7.						
8.						Hydrophytic Vegetation Indicators:
9.						Yes No Rapid Test for Hydrophytic Vegetation
10.						Yes No Dominance Test is > 50%
		Total Cover =	0			Yes No Prevalence Index is ≤ 3.0 *
						Yes No Morphological Adaptations (Explain) *
Herb Stratum (Pl	ot size: 5 ft radius)					Ves No Drohlem Hydrophytic Vegetation (Cyplain) *
1.	Schedonorus arundinaceus		25	Υ	FACU	
2.	Lonicera japonica		10	N	FAC	□ * Ind©ators of hydric soil and wetland hydrology must be
3.	Solidago altissima		25	Υ	FACU	present, unless disturbed or problematic.
4.	Plantago lanceolata		5	N	FACW	Definitions of Vegetation Strata:
5.	Melilotus officinalis		2	N	FACU	
6	Daucus carota		5	N	UPL	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	Achillea millefolium		5	N	FACU	breast height (DBH), regardless of height.
8.	Trifolium repens		10	N	FACU	
9.	Apocynum cannabinum		10	N	FACU	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.	Dipsacus fullonum		5	N	FACU	ft. tall.
11.						
12.						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.
		Total Cover =	102			
Woody Vine Stra	tum (Plot size: 30 ft radius)					
1,						
2.						
3.						Hydrophytic Vegetation Present Yes No
4.						
5.						
		Total Cover =	0			
Remarks:						
Additional Re	emarks:					
1						



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Project/Site:		West Lancaster 138	kV Transmis	ssion Line	e Reloca	tion Proje	Stantec Project #:	193704783		Date:	11/08/16
Applicant:		Electric Power								County:	Athens
Investigator #1:				Investi	gator #2:					State:	Ohio
Soil Unit:		t loam, 6-12 percent	slopes			-	IWI/WWI Classification:	None			Wetland 4
Landform:	Depression				al Relief:		9			Sample Point:	
Slope (%):	4%	Latitude:		<u> </u>	ongitude:				NAD83	Community ID:	
		ditions on the site ty			ear? (If no	, explain in r		☑ Yes □		Section:	1
Are Vegetation	」, Soil □,	or Hydrology □ sig	nificantly dist	urbed?			Are normal circumsta	•	?	Township:	12N
		or Hydrology nat	urally problei	matic?			✓ Yes	□ No		Range:	15W Dir:
SUMMARY OF		10						11 1: 0 :	D 10		V N
Hydrophytic Ve				✓ Yes	□ No)		Hydric Soils		A/:41-: A \A/-41-	✓ Yes □ No
Wetland Hydrol		1.7		Yes	□ No)		is This Sam	oling Point	Within A Wetla	and? <u></u> Yes ■ No
Remarks:	Wetland										
HVDDOL OOV											
HYDROLOGY											
		ators (Check here i	f indicators a	re not pr	esent):□			Secondary:		
Primary:		\\/_+			DO 14/-4	04-:	1		_	B6 - Surface Sc	
	A1 - Surface A2 - High W				B13 - Aqu	er-Stained				B10 - Sparsely ve	egetated Concave Surface
	A3 - Saturati					e Aquatic				B16 - Moss Trin	
	B1 - Water N	Marks				rogen Sulfi				C2 - Dry Season	n Water Table
	B2 - Sedime						spheres on Living Roots			C8 - Crayfish B	
	B3 - Drift De B4 - Algal Ma						educed Iron eduction in Tilled Soils				Visible on Aerial Imagery Stressed Plants
	B5 - Iron De					Muck Sur				D2 - Geomorph	
		on Visible on Aerial Ima	igery		Other (Ex					D3 - Shallow Ac	
_			•							D4 - Microtopog	
									V	D5 - FAC-Neutr	al Test
Field Observat	ions:										
Surface Water	Present?	Yes No	Depth:		(in.)			Wetland Hy	drology Pr	ocont? -	Yes No
Water Table Pr	esent?	☐ Yes ☐ No	Depth:		(in.)			wettand my	urology Fi	esent:	163 140
Saturation Pres	ent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Record	ed Data (str	eam gauge, monitorii	ng well, aerial	photos, p	previous i	nspection	s), if available:		N/A		
Describe Record Remarks:	ed Data (str	eam gauge, monitorii	ng well, aerial	photos, p	orevious i	nspection	s), if available:		N/A		
	ed Data (str	eam gauge, monitorii	ng well, aerial	photos, p	orevious i	nspection	s), if available:		N/A		
	ed Data (str	eam gauge, monitorii	ng well, aerial	photos, p	orevious i	nspection	s), if available:		N/A		
Remarks:	•	eam gauge, monitorii Omulga silt loam, 6			orevious i	nspection	,	ainage Class:		y Well Drained	d d
Remarks: SOILS Map Unit Name Taxonomy (Sub	: ogroup):	Omulga silt loam, 6	-12 percent s	slopes		•	Series Dra		Moderatel		3
Remarks: SOILS Map Unit Name Taxonomy (Sub	: ogroup):	Omulga silt loam, 6	-12 percent s	slopes		•	Series Dra	Coated Sand Grains; Loc	Moderatel		
Remarks: SOILS Map Unit Name Taxonomy (Sub	: ogroup):	Omulga silt loam, 6	-12 percent s	slopes		•	Series Dra		Moderatel		Texture
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip	: group): tion (Describe to	Omulga silt loam, 6	-12 percent s	sence of indicator Matrix loist)	rs.) (Type: C=Cd	•	Series Dra	Coated Sand Grains; Loc Mottles	Moderatel		
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	: ogroup): otion (Describe to Bottom	Omulga silt loam, 6	-12 percent s	slopes sence of indicator Matrix	rs.) (Type: C=Cd	•	Series Dra	Coated Sand Grains; Loc	Moderately	g, M=Matrix)	Texture
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	: ogroup): otion (Describe to Bottom Depth	Omulga silt loam, 6 the depth needed to document the inc	-12 percent s	sence of indicator Matrix loist)	rs.) (Type: C=Cd	oncentration, D=I	Series Dra Depletion, RM-Reduced Matrix, CS-Covered/d Color (Moist)	Coated Sand Grains; Loc Mottles	Moderately	, M=Matrix) Location	Texture (e.g. clay, sand, loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abs Color (M 10YR	slopes sence of indicator Matrix loist) 5/1	rs.) (Type: C=Cd	oncentration, D=I	Series Dra Depletion, RM-Reduced Matrix, CS-Covered/ Color (Moist) 6/8	Coated Sand Grains; Loc Mottles % 15	Moderately ration: PL=Pore Lining Type C	, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abe Color (M 10YR	slopes sence of indicator Matrix loist) 5/1	rs.) (Type: C=Cd	nncentration, D=I	Series Dra Depletion, RM-Reduced Matrix, CS-Covered/d Color (Moist) 6/8 2/1	Coated Sand Grains; Loo Mottles % 15	Moderately asion: PL=Pore Lining Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abe Color (M 10YR	selopes sence of indicator Matrix loist) 5/1	rs.) (Type: C=Cd	10YR 10YR	Series Dra Depletion, RM-Reduced Matrix, CS-Covered/ Color (Moist) 6/8 2/1	Coated Sand Grains; Loc Mottles % 15 15	Moderately asion: PL=Pore Lining Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): stion (Describe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s sicator or confirm the abe Color (N 10YR	slopes sence of indicator Matrix floist) 5/1	rs.) (Type: C=Cd	oncentration, D=1	Series Dra Sepletion, RM-Reduced Matrix, CS-Covered/ Color (Moist) 6/8 2/1	Coated Sand Grains; Loc Mottles % 15 15	Moderately asion: PL=Pore Lining Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the about	slopes tence of indicator Matrix loist) 5/1	rs.) (Type: C=Ce % 70	10YR 10YR	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1	Coated Sand Grains; Loc Mottles % 15 15	Moderatel Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the absolute for the state of the st	slopes Matrix loist) 5/1	(s.) (Type: C=CeCe)	10YR 10YR	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/t Color (Moist) 6/8 2/1	Coated Sand Grains; Loc Mottles % 15 15	Moderatel	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Jescribe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abs Color (N 10YR	slopes sence of indicator Matrix floist) 5/1	rs.) (Type: C=Cc	10YR 10YR 10YR 	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/t Color (Moist) 6/8 2/1	Coated Sand Grains; Loc Mottles % 15 15	Moderately cation: PL=Pore Lining Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Jescribe to Bottom Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abs Color (N 10YR	slopes sence of indicator Matrix loist) 5/1	rs.) (Type: C=Cc	10YR 10YR	Series Dra Sepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N.	Moderatel Type C C MLRA 136)	Location M M Indicators for	Texture (e.g. clay, sand, loam) clay clay r Problematic Soils ¹
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1 - Histosol A2 - Histic Epip	group): stion (Describe to Depth 4 Soil Field In	Omulga silt loam, 6 the depth needed to document the inc Horizon 1 ndicators (check he	-12 percent s licator or confirm the slose Color (M 10YR ere if indicato S5 - Sandy Re S6 - Stripped I	slopes Matrix loist) 5/1	rs.) (Type: C=Cc	10YR 10YR 10YR 	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface	Coated Sand Grains; Loc Mottles 96 15 15	Moderatel Type C C MLRA 136)	Location M M Indicators for A10 - 2cm M A16 - Coast P	Texture (e.g. clay, sand, loam) clay clay r Problematic Soils ¹ fluck (MLRA 147) trairie Redox (MLRA 147, 148)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histi	group): stion (bescribe to Bottom Depth 4 Soil Field In	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s icator or confirm the abs Color (N 10YR	slopes Matrix loist) 5/1	/s.) (Type: C=Cc	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Coated Sand Grains; Loc Mottles 96 15 15	Moderatel ation: PL=Pore Lining Type C C MLRA 136)	Location M M Indicators for A10 - 2cm W A16 - Coast P F19 - Piedmon	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S	group): tion (pescribe to Depth 4 Soil Field In	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abs Color (N 10YR	slopes Matrix loist) 5/1 rs are no dax was a cee Below Da	% 70 st present	10YR 10YR t):	Series Dra Series Dra Depletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor (8)	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 29 (MLRA 122, 136)	Moderatel atton: PL=Pore Lining Type C C MLRA 136)	Location M M Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very	Texture (e.g. clay, sand, loam) clay clay r Problematic Soils fuck (MLRA 147) rairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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	group): stion (Describe to Describe to De	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s color (M 10YR	slopes Matrix loist) 5/1	y (Type: C=Ce (S) (Type: C=Ce	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/ Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 29 (MLRA 122, 136)	Moderatel atton: PL=Pore Lining Type C C MLRA 136)	Location M M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S	group): stion (Describe to Depth 4 Soil Field In dedon Control of Soulfide	Omulga silt loam, 6 the depth needed to document the inc Horizon 1 ndicators (check he	-12 percent s licator or confirm the abs Color (N 10YR	slopes Matrix loist) 5/1	y (Type: C=Ce (Typ	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 29 (MLRA 122, 136)	Moderatel Type C C C MLRA 136) MA 148) D G G G G G G G G G G G G	Location M M M	Texture (e.g. clay, sand, loam) clay clay r Problematic Soils fuck (MLRA 147) rairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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	group): stion (Describe to Bottom Depth 4 Soil Field In edon CSulfide ayers k (LRR N) Below Dark S k Surface	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abe Color (N 10YR	slopes Matrix loist) 5/1	ys.) (Type: C=Cc	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 29 (MLRA 122, 136))	Moderatel Type C C C MLRA 136) MA 148) D G G G G G G G G G G G G	Location M M M	Texture (e.g. clay, sand, loam) clay clay r Problematic Soils fuck (MLRA 147) rairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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	group): stion (Describe to Depth 4 Soil Field In dedon Control of the Sulfide	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the sister of confirmation that confirm the sister of confirmation the sister of confirmation that confirmation the confir	slopes Matrix loist) 5/1	70 70	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA 127, 14	Moderatel Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS 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 A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley	group): stion (Describe to Depth 4 Soil Field In dedon Control of the Sulfide	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the abe Color (N 10YR	slopes Matrix loist) 5/1	70 70	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA 127, 14	Moderatel Type C C	Location M M	Texture (e.g. clay, sand, loam) clay clay r Problematic Soils fuck (MLRA 147) rairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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 A12 - Thick Dar S1 - Sandy Muc S1 - Sandy Muc S1 - Sandy Gley Restrictive Layer	group): stion (Describe to Depth 4 Soil Field In dedon Control of the Sulfide	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the sistematic for the sistematic fo	slopes Matrix loist) 5/1	y (Type: C=Ce 9% 70 70	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Mottles % 15 15 e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA 127, 14	Moderatel Type C C C	Location M M Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) clay clay
Remarks: SOILS 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	group): stion (Describe to Describe to Depth 4	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	-12 percent s licator or confirm the sistematic for the sistematic fo	slopes Matrix loist) 5/1	y (Type: C=Ce 9% 70 70	10YR 10YR t):	Series Dra Series Dra Pepletion, RM=Reduced Matrix, CS=Covered/i Color (Moist) 6/8 2/1 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Flood F21 - Red Parent Ma	Coated Sand Grains; Loc Mottles 9% 15 15 e Masses (LRR N, 9 (MLRA 122, 136) dplain Soils (MLRA 127, 14	Moderatel Type C C C	Location M M Indicators for A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) clay clay clay r Problematic Soils fuck (MLRA 147) rairire Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)



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

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 4

Eastern Mountains and Piedmont Region

VEGETATION	(Species identified in all uppercase are non-native lot size: 30 ft radius)	species.)			
Tree Stratum (F	Species Name	% Cover D	ominant	Ind.Status	Dominance Test Worksheet
1.		76 COVEL D	UIIIIIaiii.	IIIu.Status	Dominance rest Worksheet
2.					Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
3.					Number of Bornmant Species that are OBL, 1 ACW, of 1 AC(A)
4.					Total Number of Dominant Species Across All Strata: 5 (B)
5.					Total Number of Dominant Species Across All Strata(D)
6.					Descript of Description Consider That Are ORL FACING as FAC: 90.00((A/R))
7.					Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 20 X 1 = 20
10.	Total Cover :				FACW spp. $\frac{20}{125}$ $\frac{125}{20}$ $\frac{125}{250}$
	Total Gover -	- 0			FAC spp. 5 X 2 = 250
Sanling/Shrub St	ratum (Plot size: 15 ft radius)				FACU spp. 15 X 4 = 60
1.	Salix interior	60	Υ	FACW	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
2.	Platanus occidentalis	10	N	FACW	м с т с орр.
3.					Total 165 (A) 345 (B)
4.					10tal(1)(2)
5.					Prevalence Index = B/A = 2.091
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Yes No Dominance Test is > 50%
	Total Cover :	= 70			Yes No Prevalence Index is < 3.0 *
					Ves No Morphological Adaptations (Evplain) *
Herh Stratum (P	lot size: 5 ft radius)				Voc. No. Droblem Hydrophytic Vegetation (Evaluis) *
1.	Eupatorium perfoliatum	15	Υ	FACW	
2.	Scirpus atrovirens	10	N	OBL	
3.	Carex frankii	5	N	OBL	present, unless disturbed or problematic.
4.	Carex torreyi	20	Υ	FACW	Definitions of Vegetation Strata:
5.	Juncus effusus	15	Υ	FACW	
6	Carex lacustris	5	N	OBL	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	Schedonorus arundinaceus	15	Υ	FACU	breast height (DBH), regardless of height.
8.	Eupatorium serotinum	5	N	FAC	
9.	Symphyotrichum lateriflorum	5	N	FACW	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.					ft. tall.
11.					
12.					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.
	Total Cover :	= 95			
Woody Vine Stra	tum (Plot size: 30 ft radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present Yes No
4.					
5.					
	Total Cover :	= 0			
Remarks:					
Additional Re	emarks:				
1					
1					



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Project/Site:	Lemaster-\	West Lancaster 138	kV Transmis	ssion Line	e Relocat	tion Proje	Stantec Project #:	193704783		Date:	11/08/16
Applicant:		Electric Power								County:	Athens
Investigator #1				Invocti	gator #2:	lody Ni	cholcon			State:	Ohio
Soil Unit:			4 -1	IIIVESII	yalui #2.		WI/WWI Classification	a. Nama			
		t Ioam, 6-12 percen	it slopes					n: None		Wetland ID:	
Landform:	Depression				al Relief:			_		Sample Point:	
Slope (%):	4%		39.38645312210		ongitude:				NAD83	Community ID:	
Are climatic/hyd	drologic con	ditions on the site ty	pical for this	time of y	ear? (If no,	explain in r	emarks)		No	Section:	1
Are Vegetation	□ . Soil □ .	or Hydrology □ sig	nificantly dist	turbed?			Are normal circumst	ances present	?	Township:	12N
		or Hydrology na					Yes	□No		Range:	15W Dir:
SUMMARY OF		o , a	, p. 6.6.6							110.11901	
		aant?		Voo	No			Hudria Caila	Dragont?		Voc - No
Hydrophytic Ve				- Yes	✓ No			Hydric Soils	Present?	A (')	☐ Yes ☑ No
Wetland Hydro		17		□ Yes	☑ No			is This Sam	oling Point v	Within A Wetla	and? 🔳 Yes 🖪 No
Remarks:	Wetland										
HYDROLOGY											
		. (0)				`			_		
		ators (Check here	if indicators a	re not pr	esent):🗆			Secondary:		
<u>Primary</u>										B6 - Surface So	
	A1 - Surface										egetated Concave Surface
	A2 - High W				B13 - Aqu					B10 - Drainage	
	A3 - Saturati				B14 - Tru					B16 - Moss Trir	
	B1 - Water N				C1 - Hydr					C2 - Dry Seaso	
	B2 - Sedime						spheres on Living Roots			C8 - Crayfish B	
	B3 - Drift De						educed Iron				Visible on Aerial Imagery
	B4 - Algal M						eduction in Tilled Soils				Stressed Plants
	B5 - Iron De				C7 - Thin					D2 - Geomorph	
	B7 - Inundati	on Visible on Aerial Im-	agery		Other (Ex	plain in Re	emarks)			D3 - Shallow Ad	
										D4 - Microtopog	
										D5 - FAC-Neutr	allest
Field Observa	tions:										
Surface Water	Present?	☐ Yes 🖟 No	Depth:		(in.)						
Water Table Pr		□ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes ☑ No
					1. 1						
Saturation Pres	sent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Record	ded Data (str	eam gauge, monitori	ing well, aerial	photos, p	revious ir	nspection	s), if available:		N/A		
Remarks:	,						•				
Tromanto.											
0011.0											
SOILS											
Map Unit Name		Omulga silt loam, 6	6-12 percent	slopes			Series D	rainage Class:	Moderatel	y Well Drained	d
Taxonomy (Sul											
Profile Descrip	ption (Describe to	the depth needed to document the in	dicator or confirm the abs	sence of indicato	rs.) (Type: C=Co	oncentration, D=	Depletion, RM=Reduced Matrix, CS=Covere	ed/Coated Sand Grains; Loc	ation: PL=Pore Lining	, M=Matrix)	
Тор	Bottom			Matrix				Mottles			Texture
Depth	Depth	Horizon	Color (N		%		Color (Moist)	%	Typo	Location	(e.g. clay, sand, loam)
			· ·				· · · · ·	_	Type		
0	16	1	10YR	5/3	100						fill Material
			+								
			+								
	+					-		+	-		
 NRCS Hydric		 ndicators (check he	 ere if indicato	 ors are no	 	 			 	 Indicators for	 r Problematic Soils ¹
 NRCS Hydric	 Soil Field In	 ndicators (check h	 ere if indicato \$5 - Sandy Re	 ors are no	 	 	 F12 - Iron-Mangane	 ese Masses (LRR N,	 MLRA 136)	 Indicators for A10 - 2cm N	Problematic Soils ¹ Muck (MLRA 147)
NRCS Hydric A1- Histosol A2 - Histic Epip	 Soil Field In	 ndicators (check h	 ere if indicato \$5 - Sandy Re \$6 - Stripped	 ors are no edox Matrix	 	 	 F12 - Iron-Mangane	 ese Masses (LRR N, Ce (MLRA 122, 136)	 MLRA 136)	 Indicators for A10 - 2cm M A16 - Coast F	
	 Soil Field Induction	 ndicators (check h	ere if indicato \$5 - Sandy Re \$6 - Stripped \$7 - Dark Surl		 ot present	 :):	F12 - Iron-Mangane F13 - Umbric Surfa	 ese Masses (LRR N, Ce (MLRA 122, 136)	MLRA 136)		
	Soil Field In Deedon ic Sulfide	 ndicators (check ho	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue		 ot present		 F12 - Iron-Mangane F13 - Umbric Surfa F19 - Piedmont Flo	 2SE Masses (LRR N, CE (MLRA 122, 136) Odplain Soils (MLRA	MLRA 136)		r Problematic Soils 1 Problematic Soils 1 Problematic Soils 1 Prairie Redox (MLRA 147, 148) Priodplain Soils (MLRA 136, 147) Shallow Dark Surface
NRCS Hydric A1- Histosol A2 - Histic Epip A4 - Hydrogen A5 - Stratified L	Soil Field In Deedon ic Sulfide Layers	 ndicators (check h	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark		 ot present ark Surface		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	 2SE Masses (LRR N, CE (MLRA 122, 136) Odplain Soils (MLRA			
NRCS Hydric A1- Histosol A2- Histic Epip A3- Black Hist A4- Hydrogen A5- Stratified L A10- 2 cm Mu	Soil Field In Deedon ic Sulfide Layers Ck (LRR N)	 ndicators (check h	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Suri S8 - Polyvalue S9 - Thin Dark F2 - Loamy G		 ot present ark Surface		 F12 - Iron-Mangane F13 - Umbric Surfa F19 - Piedmont Flo	 2SE Masses (LRR N, CE (MLRA 122, 136) Odplain Soils (MLRA	MLRA 136)		r Problematic Soils 1 Problematic Soils 1 Problematic Soils 1 Prairie Redox (MLRA 147, 148) Priodplain Soils (MLRA 136, 147) Shallow Dark Surface
			ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted				F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor				r Problematic Soils 1 Problematic Soils 1 Problematic Soils 1 Prairie Redox (MLRA 147, 148) Priodplain Soils (MLRA 136, 147) Shallow Dark Surface
	Soil Field In Dedon ic Sulfide ayers Ck (LRR N) I Below Dark S	ndicators (check h	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G7 F3 - Depleted F6 - Redox Da		tt present ark Surface MLRA 147, 148) ix		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor				
	Soil Field In Deedon ic Sulfide Layers Ck (LRR N) Below Dark S Tk Surface ck Mineral (LRR	ndicators (check h	ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted		ark Surface		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	ese Masses (LRR N, Ce (MLRA 122, 136) odplain Soils (MLRA 127, 14		Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	r Problematic Soils ¹ Muck (MLRA 147) Prairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
	Soil Field In Deedon ic Sulfide Layers Ck (LRR N) Below Dark S Tk Surface ck Mineral (LRR		ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G7 F3 - Depleted F6 - Redox Da		ark Surface		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	ese Masses (LRR N, Ce (MLRA 122, 136) odplain Soils (MLRA 127, 14		Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	r Problematic Soils 1 Problematic Soils 1 Problematic Soils 1 Prairie Redox (MLRA 147, 148) Priodplain Soils (MLRA 136, 147) Shallow Dark Surface
	Soil Field In Dedon ic Sulfide ayers Ck (LRR N) Below Dark S rk Surface ck Mineral (LRR eyed Matrix		ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix face e Below Da & Surface (leyed Matr Matirx ark Surface Dark Surface	ot present trk Surface MLRA 147, 148) ix		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	asse Masses (LRR N, Ce (MLRA 122, 136) odplain Soils (MLRA 127, 14		Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils Troblematic Soils Tuck (MLRA 147) Tuck (MLRA 147, 148) Teloodplain Soils (MLRA 136, 147) Shallow Dark Surface In in Remarks)
	Soil Field In Deedon ic Sulfide Layers Ck (LRR N) Below Dark S Tk Surface ck Mineral (LRR		ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted		ot present trk Surface MLRA 147, 148) ix		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	ese Masses (LRR N, Ce (MLRA 122, 136) odplain Soils (MLRA 127, 14		Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ Muck (MLRA 147) Prairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)
	Soil Field In Dedon ic Sulfide ayers Ck (LRR N) Below Dark S rk Surface ck Mineral (LRR eyed Matrix		ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix face e Below Da & Surface (leyed Matr Matirx ark Surface Dark Surface	ot present trk Surface MLRA 147, 148) ix		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	asse Masses (LRR N, Ce (MLRA 122, 136) odplain Soils (MLRA 127, 14		Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils Troblematic Soils Tuck (MLRA 147) Tuck (MLRA 147, 148) Teloodplain Soils (MLRA 136, 147) Shallow Dark Surface In in Remarks)
NRCS Hydric	Soil Field In Dedon ic Sulfide ayers Ck (LRR N) Below Dark S rk Surface ck Mineral (LRR eyed Matrix		ere if indicato S5 - Sandy Re S6 - Stripped S7 - Dark Surl S8 - Polyvalue S9 - Thin Dark F2 - Loamy G F3 - Depleted F6 - Redox Da F7 - Depleted	rs are no edox Matrix face e Below Da & Surface (leyed Matr Matirx ark Surface Dark Surface	ot present trk Surface MLRA 147, 148) ix		F12 - Iron-Mangane F13 - Umbric Surfar F19 - Piedmont Flor	asse Masses (LRR N, Ce (MLRA 122, 136) odplain Soils (MLRA 127, 14		Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils 1 fuck (MLRA 147) rearine Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)



Tree Stratum (Plot size: 30 ft radius)

Species Name

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 4

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: 2 (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
	I otal (Cover = 0			FACW spp. 15 X 2 = 30
/0					FAC spp. 0 x 3 = 0
	tratum (Plot size: 15 ft radius)				FACU spp. 55
1. 2.					UPL spp. 0
3.					Total 70 (A) <u>250</u> (B)
4.					10tal 10 (A) 230 (B)
5.					Prevalence Index = B/A = 3.571
6.					Trevalence index = B/A = 3.371
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Vas No Dominanca Test is > 50%
	Total (Cover = 0			Ves No Prevalence Index is < 3.0 *
					Vos. No. Morphological Adaptations (Evoluin) *
Herb Stratum (F	Plot size: 5 ft radius)				Voc. No. Problem Hydrophytic Vocatation (Evaluin) *
1.	Schedonorus arundinaceus	30	Υ	FACU	
2.	Andropogon virginicus	10	N	FACU	* Indicators of hydric soil and wetland hydrology must be
3.	Daucus carota	5	N	UPL	present, unless disturbed or problematic.
4.	Solidago altissima	5	N	FACW	Definitions of Vegetation Strata:
5.	Melilotus officinalis	10	N	FACU	
6	Setaria glauca	30	Υ	#N/A	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	Prunella vulgaris	5	N	FACU	breast height (DBH), regardless of height.
8.	Pycnanthemum tenuifolium	5	N	FACW	
9.	Plantago lanceolata	10	N	UPL	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.	Ludwigia alternifolia	5	N	FACW	ft. tall.
11.					
12.					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.
	Total C	Cover = 115			
	atum (Plot size: 30 ft radius)				
1.					
2.					Undership Venetalian Berseit V
3.					Hydrophytic Vegetation Present Yes No
<u>4.</u> 5.					
ე.		Cover = 0			
Remarks:	i otai C	JUVEI = U			
iveillaiks.					
Additional R	emarks:				



Remarks:

WETLAND DETERMINATION DATA FORM

					Eastern	Mountai	ns and Piedmont Region	on			
Project/Site: Applicant:	American I	West Lancaster 138 Electric Power	kV Transmis				,	193704783		Date: County:	11/07/16 Athens
Investigator #1:		olek		Invest	gator #2:		cholson WI/WWI Classification:	DEMAG		State:	Ohio
	Water Terrace			Loc	al Relief:	-		PEMIC		Wetland ID: Sample Point:	
	4%	Latitudo:	20 2002045500		ongitude:			Datum:	NAD83	Community ID:	
		ditions on the site ty	39.38628155920					✓ Yes □		Section:	1
		or Hydrology sign			cai: (II 110,	explain in i	Are normal circumsta			1	12N
	,Soil □,	or Hydrology nat					✓ Yes	□ No	•	Township: Range:	15W Dir:
		10		V/	NI-			Llevelei e O e ile	D=====10		V N-
Hydrophytic Veg Wetland Hydrolo				✓ Yes	□ No			Hydric Soils		Within A Wetla	✓ Yes □ No
		ped of fly ash pond.		☑ res	□ INO			is this same	oling Point	within A wett	and? 🖪 Yes 🔳 No
Remarks:	Remnant	bed of fly ash pond.									
HYDROLOGY											
	ology Indic	ators (Check here i	f indicators a	re not pr	esent):🗆			Secondary:	Do 0 / 0	
Primary:	A1 - Surface	Motor			DO Wate	r Ctained	Leaves			B6 - Surface Sc	
	A1 - Surface A2 - High Wa				B9 - Wate B13 - Aqu					B10 - Sparsely ve	egetated Concave Surface
	A3 - Saturati				B14 - Tru					B16 - Moss Trir	
	B1 - Water N				C1 - Hydr				- i	C2 - Dry Seaso	
	B2 - Sedime			V			spheres on Living Roots			C8 - Crayfish B	
_	B3 - Drift De						educed Iron				Visible on Aerial Imagery
_	B4 - Algal Ma B5 - Iron De				Co - Rece		eduction in Tilled Soils			D1 - Stunted or D2 - Geomorph	Stressed Plants
		ion Visible on Aerial Ima	agery							D3 - Shallow Ac	
			.97			,	,			D4 - Microtopog	raphic Relief
										D5 - FAC-Neutr	al Test
Field Observati	ions:										
Surface Water F	Present?	☐ Yes 🕝 No	Depth:		(in.)			Watland Hy	dralagy Dr	200mt2	Voo No
Water Table Pre	esent?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	urology Fr	esentr	Yes No
Saturation Prese	ent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Recorde	ed Data (str	ream gauge, monitorii	ng well, aerial	photos.	orevious ir	nspection	s), if available:		N/A		
Remarks:	(33.,	J - ,	1							
SOILS											
Map Unit Name:		Water					Series Dra	ainage Class:	Moderatel	y Well Drained	t
Taxonomy (Sub											
Profile Descrip	tion (Describe to	the depth needed to document the inc	dicator or confirm the ab	sence of indicato	rs.) (Type: C=Co	ncentration, D=[Depletion, RM=Reduced Matrix, CS=Covered/0	Coated Sand Grains; Loc	ation: PL=Pore Lining	g, M=Matrix)	
Тор	Bottom			Matrix				Mottles			Texture
Depth	Depth	Horizon	Color (N	loist)	%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	4	1	10YR	4/2	70	5YR	6/8	30	С	PL	silty clay loam
	-										
	-										
	-										
NRCS Hydric S	Soil Field I	ndicators (check he	ere if indicato	rs are no	ot present):_	•	•		Indicators for	r Problematic Soils 1
□ A1- Histosol			S5 - Sandy Re			′ 🗖	F12 - Iron-Manganes	e Masses (LRR N,	MLRA 136)	A10 - 2cm N	fuck (MLRA 147)
☐ A2 - Histic Epipe	edon		S6 - Stripped				☐ F13 - Umbric Surface	(MLRA 122, 136)		A16 - Coast F	Prairie Redox (MLRA 147, 148)
☐ A3 - Black Histic			S7 - Dark Sur				F19 - Piedmont Floor	Iplain Soils (MLRA	148)	TIS-FIEUIIIOII	t Floodplain Soils (MLRA 136, 147)
A4 - Hydrogen S			S8 - Polyvalue							, II 12 - Very	Shallow Dark Surface
☐ A5 - Stratified La			S9 - Thin Dark				F21 - Red Parent Ma	TETIAI (MLRA 127, 14	7)		iin in Remarks)
 □ A10 - 2 cm Mucl □ A11 - Depleted B 		iurface	F2 - Loamy G F3 - Depleted		IX						
☐ A12 - Thick Dark		dilace \Box	F6 - Redox Da		e						
☐ S1 - Sandy Mucl			F7 - Depleted								
☐ S4 - Sandy Gley	ed Matrix		F8 - Redox De	epressions	i			1 Indicators of hydrophy	tic vegetation and w	vetland hydrology must be	e present, unless disturbed or problematic
Restrictive Layer (If Observed)	Type:	N/A		Depth:	N/A			Hydric Soil	Present?	V	Yes No



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 3

Eastern Mountains and Piedmont Region

Dominance Test Worksheet Species Name % Cover Dominant Ind.Status Number of Dominant Species that are OBL, FACW, or FAC: 2 (A) 2. 3 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (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 = 180 360 FAC spp. x 3 = 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = Salix interior 70 **FACW** x 5 = UPL spp. 0 0 2 3. 185 365 Total (A) 4. 5. Prevalence Index = B/A = 1.973 6. 7 8. **Hydrophytic Vegetation Indicators:** 9. Yes Nο Rapid Test for Hydrophytic Vegetation 10. Yes No Dominance Test is > 50% v Total Cover = 70 Prevalence Index is ≤ 3.0 * Yes No **V** Yes No Morphological Adaptations (Explain) * V Herb Stratum (Plot size: 5 ft radius) Yes No Problem Hydrophytic Vegetation (Explain) * V FACW Juncus effusus 85 * In@ators of hydric soil and wetland hydrology must be 2. carex frankii 5 Ν OBL present, unless disturbed or problematic. FACW 3 Agrimonia parviflora 20 Ν 4. Scirpus atrovirens **FACW Definitions of Vegetation Strata:** 5. 6 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 = 115 Woody Vine Stratum (Plot size: 30 ft radius) 3. Hydrophytic Vegetation Present Yes No 4. 5. ablaTotal Cover = 0 Remarks: **Additional Remarks:**



WETLAND DETERMINATION DATA FORM Eastern Mountains and Piedmont Region

Project/Site:	Lemaster-\	West Lancaster 138	kV Transmis	sion Line	e Reloca	tion Proje	Stantec Project #:	193704783	}	Date:	11/07/16
Applicant:		Electric Power								County:	Athens
Investigator #1:				Investi	gator #2:			551110		State:	Ohio
Soil Unit:		t loam, 6 to 12 perce	ent slopes		al Daliati		IWI/WWI Classification:	: PEM1C		Wetland ID:	
Landform: Slope (%):	Terrace 4%	L atituda:			al Relief:			Dotum:	NAD83	Sample Point:	
		ditions on the site ty	39.38610991870	time of v	ongitude:	-02.102	7/30/21	✓ Yes □		Community ID: Section:	Opiano 1
		or Hydrology sig			car: (II IIO,	, explain in i	Are normal circumsta			Township:	12N
		or Hydrology □ sig					✓ Yes	□ No	•	Range:	15W Dir:
SUMMARY OF		or riyarology 🗀 riac	arany problem	natio.			E 103	<u> </u>		rtungo.	TOWN BILL
Hydrophytic Ve		sent?		- Yes	п No			Hydric Soils	Present?		□ Yes ☑ No
Wetland Hydrol					☑ No					Within A Wetla	
Remarks:	- 07								J		
HYDROLOGY											
Wetland Hydr	oloav Indic	ators (Check here i	f indicators a	re not pr	esent): _[]			Secondary:		
Primary:						/-W				B6 - Surface Sc	oil Cracks
	A1 - Surface										egetated Concave Surface
	A2 - High Wa				B13 - Aqu					B10 - Drainage	
	A3 - Saturati B1 - Water N				B14 - Tru C1 - Hydr					B16 - Moss Trir C2 - Dry Seaso	
	B2 - Sedime						spheres on Living Roots			C8 - Crayfish B	
	B3 - Drift De						educed Iron		_		Visible on Aerial Imagery
	B4 - Algal Ma				C6 - Rece		eduction in Tilled Soils			D1 - Stunted or D2 - Geomorph	Stressed Plants
	B5 - Iron Dep B7 - Inundati	องรแร on Visible on Aerial Ima	agery		Other (Ex					D3 - Shallow Ac	
	27		.90.7		0 11101 (22		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ă	D4 - Microtopog	graphic Relief
										D5 - FAC-Neutr	ral Test
Field Observat	ions:										
Surface Water	Present?	☐ Yes 🕝 No	Depth:		(in.)			Wetland Hy	drology Dr	ocont? _	Yes ₪ No
Water Table Pr		☐ Yes ☐ No	Depth:		(in.)			wetiand my	urology Fi	esent:	162 140
Saturation Pres	ent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Becord	ed Data (str	eam gauge, monitorii	امنده المسام				\				
Describe Record	oa Data (oti	eam gauge, monitorii	ng well, aerial	pnotos, p	previous ii	nspection	s), if available:		N/A		
Remarks:	od Data (oti	eam gauge, monitorii	ng well, aerial	pnotos, p	orevious ii	nspection	s), if available:		N/A		
	od Bala (oli	eam gauge, monitorii	ng well, aerial	pnotos, p	orevious ii	nspection	s), if available:		N/A		
	od Data (oti	eam gauge, monitorii	ng well, aerial	pnotos, p	orevious ii	nspection	s), if available:		N/A		
Remarks: SOILS Map Unit Name	i.	Omulga silt loam, 6				nspection		ainage Class:			
Remarks: SOILS Map Unit Name Taxonomy (Sub	group):	Omulga silt loam, 6	to 12 percer	nt slopes			Series Dr				
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip	: group): tion (Describe to	Omulga silt loam, 6	to 12 percer	nt slopes			Series Dr	/Coated Sand Grains; Loc		3, M=Matrix)	
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	group): tion (Describe to Bottom	Omulga silt loam, 6	to 12 percer	nt slopes sence of indicato Matrix	rs.) (Type: C=Cc		Series Dr Depletion, RM=Reduced Matrix, CS=Covered	/Coated Sand Grains; Loc	cation: PL=Pore Linin	т	Texture
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	: ogroup): tion (Describe to Bottom Depth	Omulga silt loam, 6 the depth needed to document the inc	to 12 percer dicator or confirm the abs	nt slopes sence of indicato Matrix loist)	rs.) (Type: C=Cc	oncentration, D=I	Series Dr Depletion, RM-Reduced Matrix, CS-Covered Color (Moist)	/Coated Sand Grains; Loc Mottles %		g, M=Matrix) Location	(e.g. clay, sand, loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): htion (Describe to Bottom Depth	Omulga silt loam, 6	i to 12 percer sicator or confirm the abs Color (M 10YR	nt slopes sence of indicato Matrix loist) 4/4	rs.) (Type: C=Cc		Series Dr Sepletion, RM-Reduced Matrix, CS-Covered Color (Moist)	/Coated Sand Grains; Loc	cation: PL=Pore Linin	т	(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	to 12 percer Sicator or confirm the abe Color (M 10YR	nt slopes sence of indicato Matrix loist) 4/4	rs.) (Type: C=Cc	oncentration, D=I	Series Dr Sepletion, RM-Reduced Matrix, CS-Covered Color (Moist)	//Coated Sand Grains; Loo	astion: PL=Pore Lining Type	Location 	(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	to 12 percer Sicator or confirm the abe Color (M 10YR	nt slopes sence of indicato Matrix loist) 4/4	rs.) (Type: C=Cc	oncentration, D=I	Series Dr Sepletion, RM-Reduced Matrix, CS-Covered Color (Moist)	//Coated Sand Grains; Loc Mottles %	aution: PL=Pore Lining Type	Location 	(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	to 12 percer Sicator or confirm the abe Color (M 10YR	nt slopes sence of indicato Matrix loist) 4/4	rs.) (Type: C=Cc	oncentration, D=I	Series Dr Sepletion, RM-Reduced Matrix, CS-Covered Color (Moist)	Vicosted Sand Grains; Loc Mottles %	astion: PL=Pore Lining Type	Location 	(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	to 12 percer Sicator or confirm the abe Color (M 10YR	nt slopes sence of indicato Matrix loist) 4/4	/s.) (Type: C=Cc	oncentration, D=l	Series Dr Sepletion, RM=Reduced Matrix, CS=Covered Color (Moist)	Vicoated Sand Grains; Loc Mottles %6 	Type	Location 	(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	icator or confirm the abs	nt slopes sence of indicato Matrix loist) 4/4	rs.) (Type: C=CcC	oncentration, D=i	Series Dr Sepletion, RM=Reduced Matrix, CS=Covered/	Vicoated Sand Grains; Loc Mottles 96	Type		(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	i to 12 percer Gicator or confirm the abs Color (N 10YR	nt slopes sence of indicato Matrix floist) 4/4	/ss.) (Type: C=Cc	oncentration, D=I	Series Dr Sepletion, RM=Reduced Matrix, CS=Covered/	//Coated Sand Grains; Loo Mottles %	Type		(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (pescribe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	Goator or confirm the abs	nt slopes sence of indicato Matrix floist) 4/4	9% 100	oncentration, D=I	Series Dr Sepletion, RM=Reduced Matrix, CS=Covered/	Vicoated Sand Grains; Loc Mottles 96	Type		(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric	group): tion (pescribe to Bottom Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	Color (N 10 YR	nt slopes sence of indicato Matrix floist) 4/4 rs are no	9% 100	oncentration, D=I	Series Dr Series Dr Color (Moist)	//Coated Sand Grains; Loc Mottles % 	Type	Location Indicators for	(e.g. clay, sand, loam) silt loam r Problematic Soils 1
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol	group): stion (Describe to Bottom Depth 16 Soil Field II	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	sto 12 percer Scator or confirm the abe Color (N 10YR	nt slopes sence of indicator Matrix loist) 4/4 rs are notedox	9% 100	oncentration, D=I	Series Dr Sepletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes	//Costed Sand Grains; Loc Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip	group): stion (Describe to Bottom Depth 16 Soil Field In	Omulga silt loam, 6 the depth needed to document the inc Horizon 1 ndicators (check he	icator or confirm the absolute of the state	nt slopes Matrix loist) 4/4 -	9% 100	oncentration, D=I	Series Dr Series Dr Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface	//Coated Sand Grains; Loo Mottles %	Type	Location Indicators for A10 - 2cm M A16 - Coast F	(e.g. clay, sand, loam) silt loam r Problematic Soils ¹ Aluck (MLRA 147) Prairie Redox (MLRA 147, 148)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol	group): tion (bescribe to Bottom Depth 16 Soil Field In	Omulga silt loam, 6 the depth needed to document the ine Horizon 1	sto 12 percer Scator or confirm the abe Color (N 10YR	nt slopes sence of indicato Matrix floist) 4/4 rs are no	/s.) (Type: C=Cc	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floo	//Coated Sand Grains; Loo Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam
Remarks: SOILS 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	group): stion (Describe to Bottom Depth 16 Soil Field In edon Couldide Suffide Suffide Suffide Suffide	Omulga silt loam, 6 the depth needed to document the inc Horizon 1 ndicators (check he	Sicator or confirm the above the sicator or confirm the above the sicator of the	nt slopes Matrix loist) 4/4 -	y (Type: C=Ccc % 100 100 100 100 100 100 100 100 100 1	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floo	//Coated Sand Grains; Loc Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam
Remarks: SOILS 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	group): ition (Describe to Bottom Depth 16 Soil Field In edon C Sulfide ayers k (LRR N)	Omulga silt loam, 6 the depth needed to document the inc Horizon 1 ndicators (check he	ito 12 percer idicator or confirm the sibs Color (M 10YR ere if indicato \$5 - Sandy Re \$6 - Stripped \$7 - Dark Surf \$8 - Polyvalue \$9 - Thin Dark \$7 - Loamy Gl	nt slopes Matrix loist)	y (Type: C=Ccc % 100 100 100 100 100 100 100 100 100 1	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	//Coated Sand Grains; Loc Mottles %	Type Type	Location	(e.g. clay, sand, loam) silt loam r Problematic Soils 1 Muck (MLRA 147) Prairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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	group): tion (Describe to Depth 16 Soil Field II edon Sulfide ayers k (LRR N) Below Dark S	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	ito 12 percer Gicator or confirm the abs Color (N 10YR	nt slopes mence of indicato Matrix floist) 4/4 -	(s.) (Type: C=Cc % 100 ty present	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	//Coated Sand Grains; Loc Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam r Problematic Soils 1 Muck (MLRA 147) Prairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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	group): stion (Describe to Bottom Depth 16 Soil Field In edon C Sulfide ayers k (LRR N) Below Dark S k Surface	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	sto 12 percer scator or confirm the abe Color (N 10YR	nt slopes Matrix loist) 4/4 -	/s.) (Type: C=Cc /s.) (Type:	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	//Coated Sand Grains; Loc Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam r Problematic Soils 1 Muck (MLRA 147) Prairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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	group): ition (Describe to Bottom Depth 16 Soil Field II edon Sulfide ayers k (LRR N) Below Dark S k Surface k Mineral (LRR	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	ito 12 percer Gicator or confirm the abs Color (N 10YR	nt slopes Matrix loist) 4/4 sare no dox Matrix ace Below Da Surface (eyed Matrix Matrix Ark Surface Dark Surface Dark Surface	y6 100 tresent	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	//Costed Sand Grains; Loc Mottles	Type	Location	(e.g. clay, sand, loam) silt loam r Problematic Soils 1 Muck (MLRA 147) Prairie Redox (MLRA 147, 148) t Floodplain Soils (MLRA 136, 147) Shallow Dark Surface
Remarks: SOILS 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 A12 - Thick Dar S1 - Sandy Muc S1 - Sandy Muc S1 - Sandy Gle Restrictive Layer	group): ition (Describe to Bottom Depth 16 Soil Field II edon Sulfide ayers k (LRR N) Below Dark S k Surface k Mineral (LRR	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	icator or confirm the about the state of the	nt slopes Matrix loist) 4/4 sare no dox Matrix ace Below Da Surface (eyed Matrix Matrix Ark Surface Dark Surface Dark Surface	y (Type: C=Co	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	//Costed Sand Grains; Loc Mottles	Type	Location	(e.g. clay, sand, loam) silt loam
Remarks: SOILS 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	group): stion (Describe to Depth 16	Omulga silt loam, 6 the depth needed to document the inc Horizon 1	icator or confirm the about the state of the	nt slopes Matrix loist) 4/4 -	y (Type: C=Co	oncentration, D=I	Series Dr Depletion, RM=Reduced Matrix, CS=Covered Color (Moist) F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	//Coated Sand Grains; Loc Mottles	Type	Location	(e.g. clay, sand, loam) silt loam



Tree Stratum (Plot size: 30 ft radius)

Species Name

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 3

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:4(B)
5.					
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
7.					
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 0 x 1 = 0
	Total Cover =	0			FACW spp. 49 X 2 = 98
					FAC spp. 7 $\times 3 = 21$
Sapling/Shrub Str	ratum (Plot size: 15 ft radius)				FACU spp. 48
1.	Pinus strobus	10	Υ	FACU	UPL spp. $0 x 5 = 0$
2.	Lonicera morrowii	3	N	FACU	
3.	Salix interior	5	Υ	FACW	Total 104 (A) 311 (B)
4.	Platanus occidentalis	2	N	FACW	
5.					Prevalence Index = B/A = 2.990
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Yes No Dominance Test is > 50%
	Total Cover =	20			Yes No Prevalence Index is ≤ 3.0 *
	<u> </u>				Yes No Morphological Adaptations (Explain) *
Herb Stratum (Ple	ot size: 5 ft radius)				Yes No Problem Hydrophytic Vegetation (Explain) *
1.	Rumex crispus	5	N	FAC	
2.	Andropogon virginicus	25	Υ	FACU	
3.	Solidago altissima	10	N	FACU	present, unless disturbed or problematic.
4.	Agrimonia parviflora	25	Υ	FACW	Definitions of Vegetation Strata:
5.	Daucus carota	5	N	UPL	_
6	Symphyotrichum lateriflorum	2	N	FACW	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	Juncus torreyi	2	N	FACW	breast height (DBH), regardless of height.
8.	Juncus effusus	3	N	FACW	
9.	Poa palustris	10	N	FACW	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.	Viola sororia	2	N	FAC	ft. tall.
11.					
12.					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.
, , , , , , , , , , , , , , , , , , ,	Total Cover =	89			,
	10101 00001 -	00			
Woody Vine Strat	tum (Plot size: 30 ft radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present Yes No
4.					,
5.					
<u> </u>	Total Cover =	0			
Remarks:	10101 00001 =				
Additional Re	marks:				
Additional Re	muno.				

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.	
24/	
2	
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	

ame of Wetland: wetland	72
	73 cces p with other surface waters, vegetation zones, etc.
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	(galled land
	ash
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V-	
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(
1	1100
	Existing transmission Line
14	
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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.

Site: wetland 1	Rater(s):	ASK	Date	: 11/7/2012
Metric 1	. Wetland Area (size).		
2 2	·	,		
	e class and assign score. acres (>20.2ha) (6 pts)			
	o <50 acres (10.1 to <20.2ha) (5 pts)			
10 to	<25 acres (4 to <10.1ha) (4 pts)			
	<10 acres (1.2 to <4ha) (3 pts) o <3 acres (0.12 to <1.2ha) (2pts)			
0.1 to	o <0.3 acres (0.04 to <0.12ha) (1 pt)			
	acres (0.04ha) (0 pts)			
9	. Upland buffers and	surrounding	land use.	
max 14 pts. subtotal 2a. Calculate a	average buffer width. Select only one a	and secian copia. Do not	double shock	
	E. Buffers average 50m (164ft) or more			
	DIUM. Buffers average 25m to <50m (8			
VER	ROW. Buffers average 10m to <25m Y NARROW. Buffers average <10m (<	(32ft) around wetland peri	and penmeter (1) meter (0)	
2b. Intensity of	f surrounding land use. Select one or	double check and average	э.	
XION	Y LOW. 2nd growth or older forest, pray. Old field (>10 years), shrub land, you	airie, savannah, wildlite ar ung second growth forest	ea, etc. (7) (5)	
MOD	DERATELY HIGH. Residential, fenced	pasture, park, conservation	n tillage, new fallow field.	(3)
	H. Urban, industrial, open pasture, row	cropping, mining, constru	ction. (1)	
7 X Metric 3	. Hydrology.			
	SMater Corre all that and in	01 0	collector Construction	1
Out Courses o	f Water. Score all that apply. pH groundwater (5)	3b. Conn	ectivity. Score all that app 100 year floodplain (1)	ly_
Othe	er groundwater (3)	X	Between stream/lake and	
	ipitation (1) sonal/Intermittent surface water (3)	4	Part of wetland/upland (e Part of riparian or upland	
Pere	ennial surface water (lake or stream) (5)		on inundation/saturation.	Score one or dbl ched
	water depth. Select only one and assig (27.6in) (3)	gn score.	Semi- to permanently inu Regularly inundated/satu	
	o 0.7m (15.7 to 27.6in) (2)		Seasonally inundated (2)	
× <0.4	m (<15.7in) (1)	×	Seasonally saturated in u	
	ons to natural hydrologic regime. Score e or none apparent (12) Check all dist	urbances observed	average.	
	overed (7)	urbances observed	point source (nonstormw	ater)
	overing (3)	X	filling/grading	
L Rece	ent or no recovery (1) dike weir	<u> </u>	road bed/RR track dredging	
	stormwa	ater input	other	
Metric A	I. Habitat Alteration	and Developm	ent	
7.5 23.5 1	. Habitat Alteration	and Developin	iont.	
	disturbance. Score one or double ched	ck and average.		
	e or none apparent (4) overed (3)			
	overing (2)			
Rece	ent or no recovery (1)			
	velopment. Select only one and assignation (7)	n score,		
Very	good (6)			
	d (5) erately good (4)			
Fair				
	r to fair (2)			
4c. Habitat alt	r (1) eration. Score one or double check an	d average.		
		turbances observed		
Rec	overed (6)mowing	X	shrub/sapling removal	
	overing (3) grazing ent or no recovery (1) clearcu		herbaceous/aquatic bed sedimentation	removai
	selectiv	e cutting	dredging	
25.5		debris removal	farming nutrient enrichment	
subtotal this page	Toxic pc	matanto	Tugnent entounent	
ast revised 1 February 2001 jjm				

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 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	2	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	7	
	Motrio 4. Habitat	7,5	
	Metric 5. Special Wetland Communities	G	The state of the s
	Metric 6. Plant communities, interspersion, microtopography	- 10	ENFALLY &
	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:	
Stantec	
Addrage	2.6.4
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513 842 8200	
e-mail address:	
Name of Wetland: 12	
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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Section and Subsection Sec TIZN RISW	
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me of Wetland: wetland 2	
etland Size (acres, hectares): 0,06 %	
vet la vid	
poston station	
mments, Narrative Discussion, Justification of Category Changes:	
inal score : 17 Categor	

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.	· V	

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	nd 2
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	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES 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 Go to Question 10	NO Go to Question 90
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO 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	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?	Go to Question 10 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 Wort 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 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 Gentiana andrews Helianthus grosseserratu Liatris spicat Lysimachia quadrifler Lythrum alatur Pycnanthemum virginianus Silphium terebinthinaceus Sorghastrum nutan Spartina pectinat Solidago riddell

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,	116
O		Metric 1. Wetland	d Area (size).		
max 6 pts.	subtotal	Selection .	V V		
max o pio.	SULUIA	Select one size class and assign >50 acres (>20.2ha) (n score. 6 pts)		
		25 to <50 acres (10.1	to <20.2ha) (5 pts)		
		10 to <25 acres (4 to 3 to <10 acres (1.2 to			
		0.3 to <3 acres (0.12	to <1.2ha) (2pts)		
		0.1 to <0.3 acres (0.0 <0.1 acres (0.04ha) (0.04ha)	4 to <0.12na) (1 pt)) pts)		
3	7		buffers and surround	ing land use.	
max 14 pts.	subtotal	2a. Calculate average buffer wi	dth. Select only one and assign score. D	o not double check	
		WIDE. Buffers average	ge 50m (164ft) or more around wetland pe	erimeter (7)	
		NARROW, Buffers av	erage 25m to <50m (82 to <164ft) around verage 10m to <25m (32ft to <82ft) around	wetland perimeter (4) d wetland perimeter (1)	
		VERY NARROW. Bu	ffers average <10m (<32ft) around wetlar	d perimeter (0)	
			d use. Select one or double check and a wth or older forest, prairie, savannah, wild		
		LOW. Old field (>10	ears), shrub land, young second growth	forest. (5)	
		MODERATELY HIGH	Residential, fenced pasture, park, cons ial, open pasture, row cropping, mining, c	ervation tillage, new fallow field. (3)	
4	7	Metric 3. Hydrolo		onstruction. (1)	
max 30 pts.	subtotal	20 Sources of Webs, Cook of	NAN-A seek		
man ou pla.	Suprota	3a. Sources of Water. Score a High pH groundwater		Connectivity. Score all that apply 100 year floodplain (1)	
		Other groundwater (3)``	Between stream/lake and other huma	
		Precipitation (1) Seasonal/Intermittent	surface water (3)	Part of wetland/upland (e.g. forest), co	omplex (1)
		Perennial surface wat	er (lake or stream) (5) 3d	Duration inundation/saturation. Score one of	
		3c. Maximum water depth. Sel >0.7 (27.6in) (3)	ect only one and assign score	Semi- to permanently inundated/satur Regularly inundated/saturated (3)	ated (4)
		0.4 to 0.7m (15.7 to 2	7.6in) (2)	Seasonally inundated (2)	
		< <0.4m (<15.7in) (1) 3e. Modifications to natural hyd	rologic regime. Score one or double che	Seasonally saturated in upper 30cm (12in) (1)
		None or none appare			
		Recovered (7)	⊻ ditch	point source (nonstormwater)	
		Recovering (3) Recent or no recovery	tile (1)	filling/grading road bed/RR track	
			weir	dredging	
	T		stormwater input	other	
4		Metric 4. Habitat	Alteration and Develo	pment.	
mex 20 pts	subtotal	4a. Substrate disturbance. Sco	ore one or double check and average.		
		None or none appare Recovered (3)	nt (4)		
		Recovering (2)			
		Recent or no recovery	y (1)		
		4b. Habitat development. Sele Excellent (7)	ct only one and assign score.		
		Very good (6)			
		Good (5) Moderately good (4)			
		Fair (3)			
		Poor to fair (2)			
		4c. Habitat alteration. Score or	ne or double check and average.		
		None or none appare			
		Recovered (6)	mowing	shrub/sapling removal	
		Recovering (3) Recent or no recover	grazing clearcutting	herbaceous/aquatic bed removal sedimentation	
	11	1	selective cutting	dredging	
	11		woody debris removal toxic pollutants	farming nutrient enrichment	
0	subtotal this p	age	L Toxio politicalità	Tridition Childriffent	
ast revise	ed 1 Februa	ary 2001 jjm	X		

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 WELL
	Metric 3. Hydrology	4	
	Metric 4. Habitat	1	A VIII
	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.

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

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

The state of the s	
Name: Aaron Kwolek	
Date: 11 //////	
11/19116 Affiliation:	
Stantec	
Address:	5341
Phone Number: Rd, Cincinnati, OH 4	264/
513 842 8200 e-mail address:	
Agrono Kwolek @ stantec. com	
Name of Wetland: wetland 3	
Vegetation Communit(ies):	
HGM Class(es):	
Depressiona)	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
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ot ct	
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live.	
The dust come	
Post Endustrial De	
Poston Rd	
Poston Station	
Leston > 14+162	
Lat/Long or UTM Coordinate	
USGS Quad Name 39.385364, -82.182403	
Nelsonville	
AThens	
The Plans	
Section and Subsection	
Hydrologic Unit Code Sec TIZN R 15W	
050302040801	
11/7/16	
National Wetland Inventory Map PSS 1C	
Ohio Wetland Inventory Map	
Soil Survey	100
Delineation report/map See Justisdictional Voters Delineation F	510/205
Dee Justsdictional Vators Delineation &	e post

lame of Wetland:	etland 3				
Vetland Size (acres, hecta	res):				
ketch: Include north arro			, vegetation zones,	etc.	
ketch: Include north arro	w, relationship with o			ed trains m	37100
Comments, Narrative Disc	ussion, Justification	of Category Change	NPF		
Final score: 35	_		C	ategory:	Z

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.	1	
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.	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.		

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	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	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	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
Ва	"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 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 YES	(NO)
ou.	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
0-		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO 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 westem 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

Table 1. Characteristic plant species. bog species Oak Opening species wet prairie species fen species invasive/exotic spp Calamagrostis canadensis Zygadenus elegans var. glaucus Carex cryptolepis Lythrum salicaria Calla palustris Cacalia plantaginea Carex atlantica var. capillacea Carex lasiocarpa Calamogrostis stricta Myriophyllum spicatum Carex atherodes Carex stricta Carex echinata Najas minor Carex flava Carex buxbaumii Cladium mariscoides Phalaris arundinacea Carex sterilis Carex oligosperma Carex stricta Carex trisperma Calamagrostis stricta Carex pellita Phragmites australis Calamagrostis canadensis Chamaedaphne calyculata Carex sartwellii Deschampsia caespitosa Potamogeton crispus Gentiana andrewsii Quercus palustris Ranunculus ficaria Eleocharis rostellata Decodon verticillatus Eriophorum viridicarinatum Eriophorum virginicum Helianthus grosseserratus Rhamnus frangula Larix laricina Liatris spicata Typha angustifolia Gentianopsis spp. Lysimachia quadriflora Typha xglauca Lobelia kalmii Nemopanthus mucronatus Lythrum alatum Schechzeria palustris Parnassia glauca Pycnanthemum virginianum Potentilla fruticosa Sphagnum spp. Silphium terebinthinaceum Rhamnus alnifolia Vaccinium macrocarpon Sorghastrum nutans Rhynchospora capillacea Vaccinium corymbosum Spartina pectinata Salix candida Vaccinium oxycoccos Solidago riddellii Woodwardia virginica Salix myricoides Salix serissima Xyris difformis Solidago ohioensis Tofieldia glutinosa Triglochin maritimum

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

Triglochin palustre

Site:	wetl	and3	Rater(s): AJK	Date: 11/7/16
		Metric 1. Wetla	nd Araa (siza)	
2	2	Wella	ilu Alea (Size).	
max 6 pts:	subtotal	Select one size class and ass	sign score.	
		>50 acres (>20.2ha	a) (6 pts) 0.1 to <20.2ha) (5 pts)	
		10 to <25 acres (4	to <10.1ha) (4 pts)	
		3 to <10 acres (1.2	to <4ha) (3 pts)	
		0.3 to <3 acres (0.1 to <0.3 acr	12 to <1.2na) (2pts) 0.04 to <0.12ha) (1 pt)	
		<0.1 acres (0.04ha) (0 pts)	
13	15	Metric 2. Uplan	d buffers and surrounding	land use.
max 14 pts.	subtotal	2a Calculate average buffer	width. Select only one and assign score. Do not d	double check
		WIDE. Buffers ave	rage 50m (164ft) or more around wetland perimeter	er (7)
		MEDIUM. Buffers	average 25m to <50m (82 to <164ft) around wetlan	d perimeter (4)
		VERY NARROW.	average 10m to <25m (32ft to <82ft) around wetla Buffers average <10m (<32ft) around wetland perin	meter (0)
		Intensity of surrounding I	and use. Select one or double check and average).
		LOW. Old field (>1	prowth or older forest, prairie, savannah, wildlife are 0 years), shrub land, young second growth forest.	ea, etc. (/) (5)
		MODERATELY HI	GH. Residential, fenced pasture, park, conservation	n tillage, new fallow field, (3)
			strial, open pasture, row cropping, mining, construc	ction. (1)
lG	25	Metric 3. Hydro	logy.	
max 30 pts.	subtotal	3a. Sources of Water. Score	all that apply	ectivity. Score all that apply.
		High pH groundwa	ter (5)	100 year floodplain (1)
		Other groundwater Precipitation (1)	(3)	Between stream/lake and other human use (1)
				Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1)
			vater (lake or stream) (5) 3d. Duration	on inundation/saturation. Score one or dbl check
		>0.7 (27.6in) (3)		Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to	27.6in) (2)	Seasonally inundated (2)
		3e. Modifications to natural h	ydrologic regime. Score one or double check and	Seasonally saturated in upper 30cm (12in) (1)
		None or none appa		avoidgo.
		Recovered (7)		point source (nonstormwater)
		Recovering (3) Recent or no recov		filling/grading road bed/RR track
			weir	dredging, / / ///
	r - 1			
6	31	Metric 4. Habit	at Alteration and Developm	ent.
max 20 µls.	sublotal	40 Culturate distribution of	Name and an dead to the state of	
THUN LO PLO	and to the	None or none appa	Score one or double check and average. Brent (4)	
		Recovered (3)		
		Recovering (2) Recent or no recov	erv (1)	
		4b. Habitat development. Se	elect only one and assign score.	
		Excellent (7) Very good (6)		
		Good (5)		
		Moderately good (4	•)	
		Fair (3) Poor to fair (2)		
		Poor (1)	Andrews Assert	
			one or double check and average.	
		None or none appa Recovered (6)		shrub/sapling removal
		Recovering (3)	grazing	herbaceous/aquatic bed removal
		Recent or no recov		sedimentation dradaina
	31		woody debris removal	dredging/Damwing farming
	subtotal this page	10		nutrient enrichment
-	d 1 Februar			

Site:	wetav	d3	Rate	r(s): AJK		Date: 11/7/16
ß	31 subtotal first page	Metr	ic 5. Special Wetlar	nds.		
U						
max 10 pls	subtotal (Check al	that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland. Lake Erie coastal/tributary wetland. Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thr Significant migratory songbird/wate Category 1 Wetland. See Question	restricted hydro enings) (10) reatened or enda er fowl habitat or	angered species (10) usage (10)	
4	35	Metr	ic 6. Plant commur	nities, int	erspersion, microt	opography.
max 20 pts	. subtotal	Sa. Wetl	and Vegetation Communities.	Vegetation	Community Cover Scale	
-			present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
		3	Aquatic bed Emergent Shrub	1	Present and either comprises sn vegetation and is of moderate significant part but is of low qu	quality, or comprises a
		İ	Forest Mudflats Open water	2	Present and either comprises sig vegetation and is of moderate part and is of high quality	nificant part of wetland's
			Other contal (plan view) Interspersion.	3	Present and comprises significar vegetation and is of high qualit	
	•	Select or		Narrative D	escription of Vegetation Quality	
			High (5) Moderately high(4) Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
			Moderately low (2) Low (1) None (0) erage of invasive plants. Refer 1 ORAM long form for list. Add	mod	Native spp are dominant compor although nonnative and/or districts can also be present, and speci moderately high, but generally threatened or endangered spp	urbance tolerant native spp es diversity moderate to
	C	or deduc	t points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native specie and/or disturbance tolerant nat absent, and high spp diversity the presence of rare, threatene	ive spp absent or virtually and often, but not always,
		X	Nearly absent <5% cover (0)	Mudflet en	d Open Water Class Quality	
	6	I Micro	Absent (1) 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 a	cres)
		T	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2,47 to 9.8	8 acres)
			Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
			Standing dead >25cm (10in) dbh	Manatan	reanby Cover Seels	
			Amphibian breeding pools	Microtopog	Absent	
				1	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, be quality or in small amounts of t	nighest quality
				3	Present in moderate or greater a	mounts
					to an electrical and the second section 114.5	

35

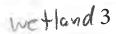
End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet wetland 3

		circle answer or insert	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
		4	
	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	Mary Mary
	Metric 2. Buffers and surrounding land use	13	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	6	A THE TAX
	Metric 5. Special Wetland Communities	0	100
	Metric 6. Plant communities, interspersion, microtopography	니	
	TOTAL SCORE	35	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	YES Wetland should be evaluated for possible Category 3 status	9) (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	MO)	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?	YES 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	(0)	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, 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.

Ottown Colombia		Final Category	
Choose one Category 1 Category 2 Category	e Category 1	1 Category 2 C	ategory 3

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:	
Agran Kwolek	
Date: ///////	
11/19/16	
Affiliation: Stantec	
Address:	
11687 Lebanon Rd, Cincinnati, OH 4:	5241
	F11
513 842 8200 e-mail address:	
Agrono Kwolek @ stantec. com	
Name of Walland.	
Vetland: Wetland 4	
PSS	
HGM Class(es):	
Deρ(ess ion ς) Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
The state of the s	
Posten Ros Posten Station	
Lat/Long or UTM Coordinate 39. 386354, -87. 181 696	
JSGS Quad Name Nelson ville	
County	
AThens	
The Plains	
Section and Subsection Sec 1 TIZN RISW	
Hydrologic Unit Code	
Site Visit / - / 1 6	
11/7/16	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
DEF DEKALD-WEXTMORELAND COMPLEX 40-7096 SIGNES	
Delineation report/map See Justisdictional Waters Delineation Pa	
hio Wetland Inventory Map	

Name of Wetland: $\begin{tabular}{c c} \hline \begin{tabular}{c c} \hline \end{tabular} \end{array}$				
Vetland Size (acres, hectares): 0, 0	2 96			
Sketch: Include north arrow, relationship	with other surface waters	, vegetation zones, etc.	The state of the s	
Comments, Narrative Discussion, Justifica	ation of Category Change	s:		
Final score : 15		Categ	ory:	

Scoring Boundary Worksheet

wetland 4

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.		
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 4

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 based in 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	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	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	NO Go to Question 8a
Ва	"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

							etland with		YES		(NO	
uou	us tree	s with la		neters a	t breast	py consis t height (d	ting of bh), generall	у	Wetland sho evaluated for Category 3	or possible	Go to	Question 9a
								- 1	Go to Ques	tion 9a	0	
evati	ation les	ss than :	575 feet	on the	USGS n	nap, adjad	tland located cent to this	at	YES		(NO)	
							sible to fish?		Go to Ques	tion 9b		Question 10
nt e	erosior hydrol	n and the ogically	e loss of	aquation I	plants, Lake Eri				Wetland she evaluated for Category 3	or possible status	Go to	Question 9c
aka	o Erio	ustor los	role the	wotland	la prima	na budent	nainal influen		Go to Ques	tion 10	NO	
ie we er alf arine de sa	wetland alteration ine" wet sandba	l is hydr ns), or t land wit ir depos	ologicall the wetla h lake a ition wet	y unrest and can nd river tlands, e	tricted (r be char influence estuarine	no lakewa racterized ced hydrol	logy. These s, river mout		Go to Ques	tion 9d	Go to	Question 10
the	ne wetla	nd have	a predo	ominano	e of nat	tive specie	es within its		YES		NO	
			s, althou be pre		-native o	or disturba	ance tolerant		Wetland is a 3 wetland	a Category	Go to	Question 9e
									Go to Ques	tion 10		
						n-native o ion comm	r disturbance unities?	•	YES Wetland shi evaluated for Category 3 Go to Ques	or possible status	Go to	o Question 10
Pla	lain Sa	nd Prai	ries (Oa	k Open	ings) l	s the wetl	and located	n	YES	tion to	(NO)	
s, Fu acter trate ral ir	Fulton, erized I te with inches	Henry, on the foliation of the solution of the	or Wood blowing ersed org urface, a	Countie descript janic ma and ofte	es and o tion: the atter, a v n with a	can the we e wetland water table i dominan	etland be has a sandy e often within ice of the	1	Wetland is 3 wetland.	0 ,	0	o Question 11
ent). ral A	t). The Areas	Ohio De and Pre	epartmei	nt of Nat	tural Re	sources D	may also be Division of confirming t		Go to Ques	tion 11		
					relict we	et prairie o	community		YES		NO	
nate form ties ties corti	ited by somerly es), Sares), nortes rtions of	some or located Idusky F thwest C	all of the in the Da Plains (W Phio (e.g n Ohio (e specie arby Pla Vyandot I. Erie. H	es in Tal iins (Ma , Crawfo Huron, L	ble 1. Ext dison and ord, and M ucas. Wo	tensive prairi I Union		evaluated for Category 3	or possible status	Qua	plete ntitative ng
nate form ties ties corti	ited by somerly es), Sares), nortes rtions of	some or located Idusky F Ihwest C f wester	all of the in the Da Plains (W Phio (e.g n Ohio (e specie arby Pla Vyandot I. Erie. H	es in Tal iins (Ma , Crawfo Huron, L	ble 1. Ext dison and ord, and M ucas. Wo	tensive prairi I Union Marion ood Counties		We eva Cat	tland sh luated f tegory 3	tland should be liuated for possible tegory 3 status mplete Quantitative	tland should be pluated for possible degory 3 status Com Qua Ratii

Table 1. (Characteristic	plants	pecies.
------------	----------------	--------	---------

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Invasive/exotic spp Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifalia Typha xglauca	Tygadenus 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 Trijeldia glutinosa Trijelochin maritimum	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 canadensis Calamagrostis stricta Carex atherodes Carex buxbaumi Carex pellita Carex sartwelli Gentiana andrewsi Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddelli

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

Metric 1. Wetland Area (size). Select one size class and saign score.	Site: 6	re Hav	4	Rater(s): AJK		Date: (1/7/16
max 6 pits subsect one size class and assign score. 3-50 acres (20 22 22ha) (6 pits) 25 to 50 acres (10 to 30 acres (12 to 40 22ha) (6 pits) 26 to 50 acres (10 to 40 22ha) (6 pits) 27 to 50 acres (10 to 40 3 acres (20 to 40 12ha) (1 pits) 38 to 50 acres (10 to 40 3 acres (20 to 40 12ha) (1 pits) 39 to 10 acres (20 to 40 acres (21 to 40 12ha) (1 pits) 4 to 10 acres (21 to 40 acres (21 to 40 12ha) (1 pits) 4 to 10 acres (21 to 40 acres (21 to 40 12ha) (1 pits) 4 to 10 acres (21 to 40 acres (21 to 40 acres (21 to 40 12ha) (1 pits) 4 to 10 acres (21 to 40 acres			Metric 1 Wetland	Area (size)		
So acres (20 20 20 a) (6 pis) So acres (20 20 20 a) (6 pis) So 50 acres (10 to 20 20 acres (20 to 20 20 acres (20 20 20 acres (20 20 20 acres (20 20 20 acres (20 20 20 20 acres (20 20 20 20 20 acres (20 20 20 20 20 20 20 20 20 20 20 20 20 2	0	0	Wedner. Wedana	Alea (Size).		
25 to <50 exces (10.1 to <20.2ha) (5 pts)	max 6 pts.	subtotal				
10 to <25 acres (4 to <10, the) (4 pts) 3 to <10 acres (12 to <12 mil) (2 to <10 acres (12 to <12 mil) (2 to <10 acres (10 acres (10 cit) acres (10 cit) (2 to <10 acres (1			>50 acres (>20.2ha) (6 p	(S) (5 pts)		
3 to <10 acres (1.2 to <1-2 hg) (2 hb)			10 to <25 acres (4 to <10	.1ha) (4 pts)		
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) Across (0.04ha) (pt pt) Metric 2. Upland buffers and surrounding land use. 2a. Cabulate everage buffer width. Select only one and assign across. Do not double chock. WiDELE. Buffers average 50m (1649) or more acround welfand perimeter (?) AMEROW. Buffers average 10m to <50m (82 to <1644) around welfand perimeter (4) NARROW. Buffers average 10m to <50m (82 to <1644) around welfand perimeter (7) VERY NARROW. Buffers average 10m to <50m (32 to <1644) around welfand perimeter (1) VERY YEARROW. Buffers average 10m to <50m (32 to <1644) around welfand perimeter (1) VERY YEARROW. Buffers average 10m to <50m (32 to <1644) around welfand perimeter (1) VERY YEARROW. Buffers average <10m (<328) around year acround welfand perimeter (1) VERY LOW. 2nd growth or older forest, praire, averannah, vilidlifie area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) WOEVER LEY HIGH. Residential, tenced pasture, park, conservation tillage, new fallow field. (3) WHOTH A. Usan, mutadrial, pean pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. Metric 3. Hydrology. 3a. Sources of Vater. Score all that apply. High ph groundwater (5) Other groundwater (5) Seasonal internal well and the second of the conservation of the			3 to <10 acres (1.2 to <4	na) (3 pts)		
Metric 2. Upland buffers and surrounding land use. 2a. Calculate average buffer width. Salest only one and assign score. Do not double check. WIDE. Buffers average 50n (164ft) or more around welland perimeter (4) NARROW. Buffers average 50n (164ft) or more around welland perimeter (6) NARROW. Buffers average 50n to c25m (32t to c32t) around welland perimeter (1) VERY NARROW. Buffers average 50n to c25m (32t to c32t) around welland perimeter (1) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2d field (-10 years), shrub land, young second growth forest. (5) MoDERATELY Holf. Residential, fine-ord pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. The government of the pasture (1) Sasonal/intensitient surface water (3) Pereninal surface water (also or stream) (5) Sasonal/intensitient surface water (also or stream) (5) Sasonal/intensitient surface water (also or stream) (5) And (15.17 or) (1) Seasonal/intensitient surface water (also or stream) (5) And (15.17 or) (1) Recovered (7) Recovered (7) Recovered (7) Recovered (7) Recovered (8) Recovered (9) Recovered (9) Recovered (9) Recovered (1)			0.3 to <3 acres (0.12 to <	1.2ha) (2pts)		
### April ### Ap			<0.1 acres (0.04ha) (0 pt	s)		
WIDE. Buffers average 50n (194ft) or more around welfand perimeter (7) MEDIUM. Buffers average 25 m to -50m (28 to 154ft) around welfand perimeter (4) NARROW. Buffers average 25 m to -50m (32 to 154ft) around welfand perimeter (1) VERY NARROW. Buffers average 25 m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) VERY NARROW. Buffers average -50m to -52m (32ft to 482ft) around welfand perimeter (7) NODERATELY PHIGH. Bediefathlist, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Unban, industrial, pen pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. 3a. Sources of Water. Score all that apply. High pit groundwater (5) Perceipitation (1) Perceipitation (1) Perceipitation (1) Seasonall/intermitet surface water (3) Perceipitation (1) Perceipitation (1) Perceipitation (1) Seasonall/intermitet surface water (3) Perceipitation (1) Perceipitation (1) Seasonall/intermitet surface water (3) Perceipitation (1) Perceipitation (1) Seasonally intermetty inundated/saturated (4) None or none apparent (12) Recovered (7) Recovered (7) Recovered (7) Recovered (8) Recovered (9) Recovered (9) Recovering (2) Poor (1) Autional evidence and average. None or none apparent (1) Recovering (3) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (7) Recovering	7	7	Metric 2. Upland b	uffers and surround	ing land use.	
WIDE. Buffers average 50m (164ft) or more around welland perimeter (7)	max 14 pts.	subtotal	2a. Calculate average buffer width.	Select only one and assign score.	o not double check.	
NARROW. Buffers average 10m to <25m (32ft to <82ft) around welland perimeter (1)			WIDE. Buffers average 5	i0m (164ft) or more around wetland pe	erimeter (7)	
VERTY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)			MEDIUM. Buffers average	ge 25m to <50m (82 to <164ft) around	wetland perimeter (4)	
2b. Intensity of surrounding land use. Select one or double check and average. Very LOW. 2nd field (-10 years), shrub land, young second growth forest. (5) LOW. Old field (-10 years), shrub land, young second growth forest. (6) HiGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Wetric 3. Hydrology. Wetric 3. Hydrology. 100 year floodplain (1) Seasonal/Intermittent surface water (3) Perclipitation (1) Seasonal/Intermittent surface water (3) Perrolipitation (1) Seasonal/Intermittent surface water (4) Perrolipitation (1)			VERY NARROW. Buffer	s average <10m (<32ft) around wetlan	nd perimeter (0)	
LOW. Old field (>10 years), shrub land, young second growth forest. (5)			Intensity of surrounding land us	se. Select one or double check and a	verage.	
Motric 3. Hydrology. Metric 4. High ph groundwater (3) Percepitation (1) Seasonal/Intermittent surface water (3) Personnial surface water (ake or stream) (5) 3d. Duration inundation/saturation. Score one or dibt check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated/saturated (3) Seasonally inundated/saturated (3) Seasonally inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Recovering (3) Recovering (4) Recovering (5) Recovering (5) Recovering (5) Recovering (6) Recovering (6) Recovering (7) Recovering (8) Recovering (8) Recovering (8) Recovering (8) Recovering (8) Recov			VERY LOVV. 2nd growth	or older forest, prairie, savannah, wild	llite area, etc. (7)	
Metric 3. Hydrology. Metric 3. Hydrology. Metric 3. Hydrology.			MODERATELY HIGH. R	esidential, fenced pasture, park, cons	ervation tillage, new fallo	ow field. (3)
max 30 pts. sublisted 3a. Sources of Water. Score all that apply. High pH groundwater (3) Other groundwater (3) Percipitation (3) Percepitation (4) Seasonal/intermitent surface water (3) Perennial surface water (lake or stream) (5) 3b. Unardian inundation/saturation. Score one or double check. 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Seasonall/intermitent surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.4 often (15.7 to 27.6in) (2) Seasonally inundated/saturated (4) Seasonally inundated/saturated (4) Seasonally inundated/saturated (4) Seasonally saturated in upper 30cm (12in) (1) 3c. Modifications to natural hydrologic regime. Score one or double check and average. None or onne apparent (12) Recovered (7) Recovering (3) Poor to fair (2) Recovering (3) Recovering (4) Regularly inundated/seamanted (1) Recovering (4) Regularly inundated/seamanted (1) Regularly inundated (2) Recovering (4) Regularly inundated (2) Recovering (4) Regularly inundated (2) Recovering (4) Recovering (4) Recovering (4) Recovering (5					onstruction. (1)	``,
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Do. 1 to 7.7 (27.6in) (3)			3c. Maximum water depth. Select	only one and assign score.		
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selective cutting woody debris removal toxic pollutants dredging farming nutrient enrichment			Recovering (3)	grazing	herbaceous/aqua	
woody debris removal faming nutrient enrichment	N. A.	S - C - C	Recent or no recovery (1			
subtotal this page toxic pollutants nutrient enrichment		14			farming	
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Site: We	Fland 4	Rater(s): 🖊	ナト	Date: 11/7//6
sylphotol	4 first page			
~ I		ecial Wetlands.		
max 10 pts. sub	Check all that apply and Bog (10) Fen (10) Old growth fore Mature foreste	est (10)	od bydro	Nony (10)
	Lake Erie coas Lake Plain Sar Relict Wet Pra Known occurre Significant mig Category 1 We	stal/tributary wetland-restricted and Prairies (Oak Openings) (10 iries (10) ence state/federal threatened o gratory songbird/water fowl hab etland. See Question 1 Qualita	hydrolog)) or endang oitat or us ative Rati	gy (5) gered species (10) sage (10) ing (-10)
may 20 ath auth	5			rspersion, microtopography.
max 20 pts. sub	6a. Wetland Vegetation Score all present using 0			ommunity Cover Scale Absent or comprises <0.1ha (0.2471 acres) contiguous area
ceneu+	Aquatic bed	to 3 scale		Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
ייייייייייייייייייייייייייייייייייייייי	O Shrub	Opening to		significant part but is of low quality
cesent 0.25 a	Forest Mudflats Open water		2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a smal part and is of high quality
	Other6b. horizontal (plan view		3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Select only one.		D	
	High (5)			cription of Vegetation Quality
	Moderately hig	In(4)	ow	Low spp diversity and/or predominance of nonnative or
	Moderate (3)	. (2)	nod	disturbance tolerant native species Native spp are dominant component of the vegetation,
	Low (1) None (0)	v (2)	100	although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to
	6c. Coverage of invasive		. 1	moderately high, but generally w/o presence of rare
	to Table 1 ORAM long fo		inh	threatened or endangered spp
	or deduct points for cove Extensive >75' Moderate 25-7 Sparse 5-25%	% cover (-5) '5% cover (-3) cover (-1)	igh	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent		ot and C	Non Mister Class Quality
	Absent (1) 6d. Microtopography.			Open Water Class Quality Absent <0.1ha (0.247 acres)
	Score all present using 0			Low 0.1 to <1ha (0.247 to 2.47 acres)
				Moderate 1 to <4ha (2.47 to 9.88 acres)
				High 4ha (9.88 acres) or more
		>25cm (10in) dbh	topogra	phy Cover Scale
				Absent
			V 65 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
=1		• 5	3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

wetland 4

		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 (NØ	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	6	
	Metric 2. Buffers and surrounding land use	7	- Walter
	Metric 3 Hydrology	4	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	No. 2 State of
	Metric 6. Plant communities, interspersion, microtopography	*	The state of
	TOTAL SCORE	15	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

wetland 4

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	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)	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, 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.

	100	al Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

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Summary: Correspondence electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company