# Letter of Notification Clinton County (Duke) – Hillsboro 138kV Line Project



PUCO Case No. 19-1987-EL-BLN

Submitted to:

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

Submitted by:

American Electric Power Ohio Transmission Company, Inc.

January 3, 2020

#### Letter of Notification

# AEP Ohio Transmission Company, Inc. (AEP Ohio Transco) Clinton County (Duke) – Hillsboro 138kV Line Project

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") ("Company") provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

# **B(1) Project Description**

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

AEP Ohio Transco proposes the Clinton County (Duke) — Hillsboro 138 kV Line Project ("Project"), located in Highland and Clinton Counties, Ohio. The Project proposes to rebuild 17-miles of the Hillsboro-Hutchings 138kV Circuit and Hillsboro-Warren 138kV Circuit between Hillsboro Substation and Clinton County Substation (Duke) tap point. The Hillsboro-Hutchings 138 kV Circuit is along the existing Portsmouth-Trenton No. 1 Line and the Hillsboro-Warren 138 kV Circuit is along the existing Portsmouth-Trenton No. 2 Line. These circuits currently exist as parallel H-frame structures; the Project proposes to be rebuild these circuits on new double-circuit monopole structures between the existing parallel H-frame structures. The existing H-frame structures will be removed upon completion of this Project. The Company will keep and maintain the 180ft right-of-way ("ROW"). The line asset will be renamed the Clinton County (Duke)-Hillsboro-138kV Line. Map 3 shows the Project components as explained above. This Project is part of the Hillsboro-Hutchings 138kV Circuit 36-mile rebuild, and the remaining 19 miles of the circuit rebuild was filed with the Ohio Power Siting Board under Case No. 19-1941-EL-BLN. Maps 1 and 2A-2I in Appendix A show the location of the Project in relation to the surrounding vicinity.

The Project meets the requirements for a LON because it is within the types of projects defined by item 2(b) of Ohio Administrative Code Section 4906-1-01 Appendix A of the Application Requirement Matrix for Electric Power Transmission Lines:

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

The Project has been assigned PUCO Case No. 19-1987-EL-BLN

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

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

The Project proposes a double-circuit rebuild of a 17-mile section of the Hillsboro-Hutchings 138kV Circuit and Hillsboro-Warren 138kV Circuit from Clinton County Substation (Duke) tap point to Hillsboro Substation. Previously filed in Case No. 19-1941-EL-BLN, the Company also proposed the single-circuit rebuild of a 19-mile section of the Hillsboro-Hutchings 138kV Circuit from the Hutchings tap point to Structure 44 near the Clinton County (Duke) Substation. These two projects combine to rebuild the Hillsboro-Hutchings 138 kV Circuit, which is part of the overall rebuild of the Portsmouth-Trenton Line No. 1. Due to its length (98.5 total miles), the rebuild of the Portsmouth-Trenton Line No. 1 was split into multiple projects, and the Company plans to propose additional projects to complete the rebuild of the line in the near future. The Hillsboro-Warren 138kV Circuit of the Portsmouth-Trenton Line No. 2 is jointly owned and operated by Duke-Ohio and AEP. The Company proposes to rebuild this circuit on the AEP-owned portion from Hillsboro Station to Clinton County Substation (Duke) tap point.

The Hillsboro-Hutchings 138kV Circuit portion of the Portsmouth-Trenton Line No. 1 and the Hillsboro-Warren 138kV Circuit of the Portsmouth-Trenton Line No. 2 were originally placed in-service in 1943 and most of the original equipment is still in place. There are 1,021 open conditions along the Company owned portions of these circuits west of Hillsboro Substation. The Hillsboro-Warren 138kV circuit has 323 open conditions from structures 345-494A, and the Hillsboro-Hutchings 138kV circuit has 698 open conditions between structures 337-645A. Therefore, the Project is necessary to improve reliability as it will reduce the likelihood of power outages due to equipment failure. The Company will utilize a larger conductor to match the rating proposed by Duke on their portion of the line. The conductor utilized by the Company is a standard conductor used by utilities across North America for similar construction.

The PJM supplemental project identification number for this project is s1599. This Project was included in the Company's 2019 Long-Term Forecast on page 60 and 61. The PJM slide and Long-Term Forecast pages can be found as Appendix B.

# **B(3) Project Location**

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

Map 1 shows the location of the Project in relation to existing transmission lines and the electric power transmission substations.

# **B(4) Alternatives Considered**

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

As an alternative to the Project, the Company considered rebuilding both lines as single-circuit parallel structures instead of combining the lines onto double-circuit monopoles. Given the opportunity to consolidate assets, the Company deemed it appropriate to create a lesser impact to the existing corridor, and combine the transmission assets onto one structure. No significant alternatives were considered on the location of the route, as rebuilding within the Company's existing rights was deemed to be best suited for the proposed facility. Socioeconomic, land use, and ecological information is presented in Section B(10).

## **B(5) Public Information Program**

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

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

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

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

Construction of the Project is planned to begin in the first quarter of 2020, and the anticipated in-service date will be approximately June 2021.

# B(7) Area Map

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

Map 1 in Appendix A provides the proposed Project area on a map of 1:110,880-scale (1 inch equals 1.75 miles), and provides the locations of the approximately 17-mile long existing Clinton County (Duke) - Hillsboro 138 kV line, as well as Hillsboro and Clinton County (Duke) substations on the United States Geological Survey (USGS) 7.5-minute topographic map of the New Market, Ohio, Lynchburg, Ohio, Martinsville, Ohio, and Blanchester, Ohio quadrangles. Maps 2A-2I in Appendix A show the Project area on recent aerial photography, as provided by Bing Maps at a scale of 1:12,000-scale (1 inch equals 1,000 feet).

To visit the Hillsboro Station from Columbus, Ohio, take I-70 West to I-71 South. Proceed on I-71 South for 47.5 miles to take exit 58 for OH-72 toward Sabina/Jamestown and turn left onto OH-72 South. Proceed on OH-72 South for approximately 10 miles to turn right onto OH-729 South. Proceed on OH-729 South for approximately 7.5 miles, then turn right onto Mad River Road. Proceed on Mad River Road for approximately 5.5 miles, then turn right to stay on Mad River Road for approximately 5 more miles. The Hillsboro Station will be on the right. The approximate address of the Hillsboro Station site is 5995 County Highway 7, Hillsboro, Ohio 45133, at latitude 39.173534, longitude -83.677880.

To visit the Clinton County Substation (Duke) from Columbus, Ohio, take 1-70 West to I-71 South. Proceed on I-71 South for approximately 55 miles to take exit 50 for US-68 toward Wilmington and turn left onto US-68. Proceed on US-68 for approximately 3 miles and then turn right onto Center Road. Continue on Center Road for approximately one mile and then turn left onto North Nelson Avenue and proceed approximately 3.3 miles before turning right onto OH-730 South. Proceed on OH-730 South for approximately 10 miles and then continue onto OH-133 South for 2.5 miles to turn left onto North Columbus Street. Proceed on North Columbus Street for approximately 0.7 miles and then turn left onto OH-28 East/Cherry Street, continuing for approximately one mile. The Clinton County Substation (Duke) will be on the right. The approximate address of the Clinton Station is 504 Cherry Street, at latitude 39.295994, longitude -83.961433.

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

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

The Project is within existing ROW. No additional easements, options, or land use agreements are necessary.

# **B(9) Technical Features**

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

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

The transmission line construction will include the following:

Voltage: 138kV

Conductors: 1033.5 kcmil 54/7 "Curlew" ACSR Static Wire: 7#8 Alumoweld & 48-CT OPGW

Insulators: Polymer ROW Width: 180-Feet

Span Length: 1100ft. (Existing span is 600ft)

# **Structure Types:** (next page)

- Single circuit, galvanized steel, monopole, custom structure on a reinforced concrete foundation. (1) structure needed.
- Double circuit, galvanized steel, monopole, custom structure on a reinforced concrete foundation. (84) structures needed.
- Double circuit, galvanized steel, monopole, custom structure, direct embedded. (1) structure needed.
- Double circuit, galvanized steel, two-pole, custom structure, direct embedded. (1) structure needed.
- Single circuit, galvanized steel, monopole, pre-engineered, direct embedded structures. (1) structure needed.
- Double circuit, galvanized steel, monopole, pre-engineered, direct embedded. (1) structure needed.

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

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

## B(9)(b)(i) Calculated Electric and Magnetic Field Strength Levels

# i) Calculated Electric and Magnetic Field Levels

Three loading conditions were examined: (1) Normal Maximum Loading, (2) Emergency Loading, and (3) Winter Normal Conductor Rating, consistent with the OPSB requirements. Normal Maximum Loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter Normal (WN) Conductor Rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that either circuit of this line would operate at its WN rating in the foreseeable future. Loading levels and the calculated electric and magnetic fields (EMF) are summarized below.

EAST LIMA-MADDOX CREEK 345 KV EMF CALCULATIONS				
Condition	Circuit Load (A)	Ground Clearance (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Maximum Loading^	225.93 / 66.65	29.3	0.07/2.10/0.07	3.66/23.65/3.0
(2) Emergency Line Loading^^	343.07 / 283.48	28.8	0.07/2.14/0.07	7.30/46.74/7.03
(3) Winter Normal Conductor Rating^^^	1568 / 1568	29.3	0.07/2.10/0.07	35.86/227.37/35.79

<sup>\*</sup> EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and 1.0 P.U. Voltages. ROW width is 75 feet (left) and 75 feet (right) of centerline, respectively.

The above EMF levels are well within the limits of the specified IEEE Standard C95.6tm-2002. Those limits have been established to "prevent harmful effects in human beings exposed to electromagnetic fields in the frequency range of 0-3kHz".

# B(9)(b)(ii) Design Alternatives

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

Design alternatives were not considered due to EMF strength levels. Transmission lines, when energized, generate EMF. Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on human health. However, some people are concerned that EMF have impacts on human

<sup>^</sup> Peak line flow expected with all system facilities in service

<sup>^^</sup> Maximum flow during a critical system contingency

<sup>^^^</sup> Maximum continuous flow that the line, including its terminal equipment, can withstand during winter

health. Due to these concerns, EMF associated with the new circuits was calculated and set forth in the table above. The EMF was computed assuming the highest possible EMF values that could exist along the proposed transmission line rebuild. Normal daily EMF levels will operate below these maximum load conditions. Based on studies from the National Institutes of Health, the magnetic field (measured in milliGauss, or mG) associated with emergency loading at the highest EMF value for this transmission line is lower than those associated with normal household appliances like microwaves, electric shavers and hair dryers, shavers and hair dryers. For additional information regarding EMF, the National Institutes of Health has posted information on their website: http://www.niehs.nih.gov/health/topics/agents/emf/. Additionally, information on electric and magnetic fields is available on AEP Ohio's website: https://www.aepohio.com/info/projects/emf/OurPosition.aspx. The information found on AEP Ohio's website describes the basics of electromagnetic field theory, scientific research activities, and EMF exposures encountered in everyday life. Similar material will be made available for those affected by the construction activities for this Project.

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

## The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$43,300,000, from a Class 3 estimate.

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

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

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

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

The Project extends approximately 17 miles from Hillsboro Substation to Clinton County Substation (Duke). The Project is located in New Market, Hamer, and Dodson Townships in Highland County and Clark, Jefferson, and Marion townships in Clinton County.

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

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

The Clinton and Highland County Auditors provided a list of parcels registered as Agricultural District Land in September 2019. The proposed Clinton County (Duke) - Hillsboro 138 kV line intersects 11 parcels that were identified as Agricultural District Land parcels. The Clinton County (Duke) - Hillsboro 138 kV line crosses approximately 2.1 miles of agricultural district land.

Overall, the proposed Clinton County (Duke) - Hillsboro 138 kV line crosses approximately 13.5 miles of agricultural land. As the Project is to rebuild within the existing maintained corridor, minimal additional impacts to agricultural land are expected.

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

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

A cultural report was completed and will be coordinated directly with the OPSB. The coordination letter is provided within Appendix D.

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

Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHCD000005. AEP Ohio Transco will also coordinate storm water permitting needs with local government agencies, as necessary. AEP Ohio Transco will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan to minimize erosion control sediment to protect surface water quality during storm events.

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

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

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

The United States Fish and Wildlife Service (USFWS) *Ohio County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species* (available at <a href="https://www.fws.gov/midwest/Endangered/lists/pdf/OhioCtyList29Jan2018.pdf">https://www.fws.gov/midwest/Endangered/lists/pdf/OhioCtyList29Jan2018.pdf</a>) was reviewed to identify the threatened and endangered species known to occur in the Project counties. This USFWS publication lists the Indiana bat (*Myotis sodalist*; federally endangered) and the Northern long-eared bat (*Myotis sepententrionalis*; federally threatened) for all three counties, the Eastern massasauga (*Sistrurus catenatus*; federally threatened) for Clinton and Warren Counties, the running buffalo clover (*Trifolium*)

stoloniferum; federally endangered) for Highland and Warren Counties, and the rayed bean (*Villosa fabalis*; federally endangered) for Warren County. On October 17, 2017, coordination letters were sent to USFWS and the Ohio Department of Natural Resources (ODNR) soliciting responses.

Responses were received from the USFWS on January 9, 2018 and from the ODNR on January 4, 2018. The ODNR and the USFWS identified several state and federal listed crustacean, mussel, reptile, and fish species within the Project survey corridor area; however, no in-water work is planned as part of the Project and impacts to the species and their habitat is not anticipated. The USFWS indicated that the Project area contains potential habitat for the Indiana bat and the Northern long-eared bat and is in vicinity of multiple records of the Indiana bat. The USFWS recommended that tree removal only occur between October 1 and March 31, if trees less than or equal to 3 inches of diameter at breast height (dbh) cannot be avoided. Additionally, the USFWS indicated that implementation of the recommended seasonal tree cutting is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer.

The ODNR indicated that the Project area contains suitable habitat for the Northern harrier (*Circus cyaneus*) and the upland sandpiper (*Bartramia longicauda*) in old field, pasture, and emergent wetland habitats. AEP Ohio Transco consultant confirmed that limited suitable habitat (old field, pasture, and emergent wetland habitat) is present within or adjacent to the Project area for the Northern Harrier and Upland Sandpiper in their Wetland Delineation and Stream Assessment Report. The Ohio Department of Wildlife (DOW) recommends that construction should be avoided during the Northern Harrier's nesting period (May 15 to August 1) if the species' suitable habitat will be impacted, and that construction should be avoided during the upland sandpiper's nesting period (April 15 to July 31) if the species' suitable habitat will be impacted.

Based on the primarily agricultural nature of the Project area and minimal amount of tree clearing required, no impacts to federally listed species are anticipated. Additional details regarding species are provided in Appendix C.

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

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

AEP Ohio Transco's consultant prepared a Wetland Delineation and Stream Assessment Report. No impacts to wetlands or streams are anticipated. Copies of the Wetland Delineation and Stream Assessment Reports for the Project are included as Appendix C. A Stormwater Pollution Prevention Plan (SWPPP) will also be prepared prior to construction.

Letter of Notification for the Clinton County (Duke)-Hillsboro 138kV Line Project

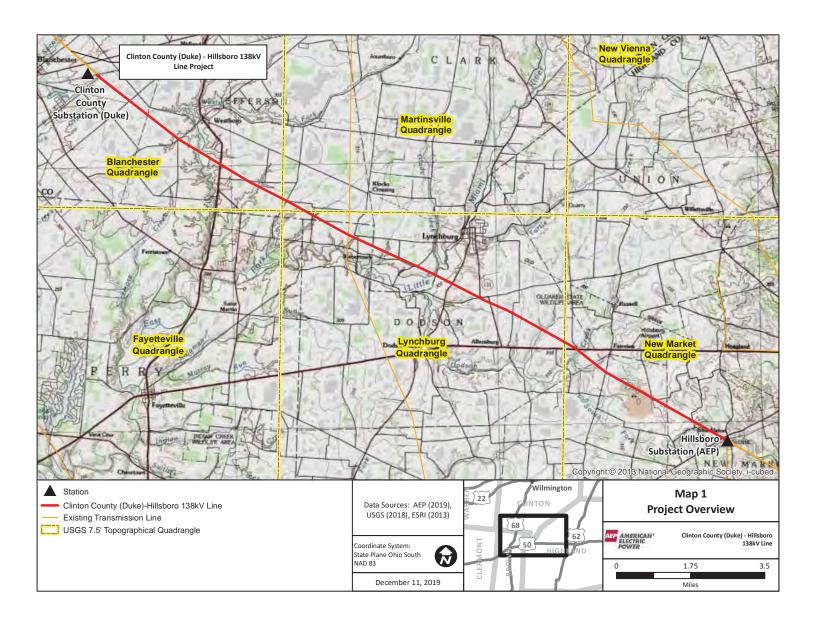
# **B(10)(g) Unusual Conditions**

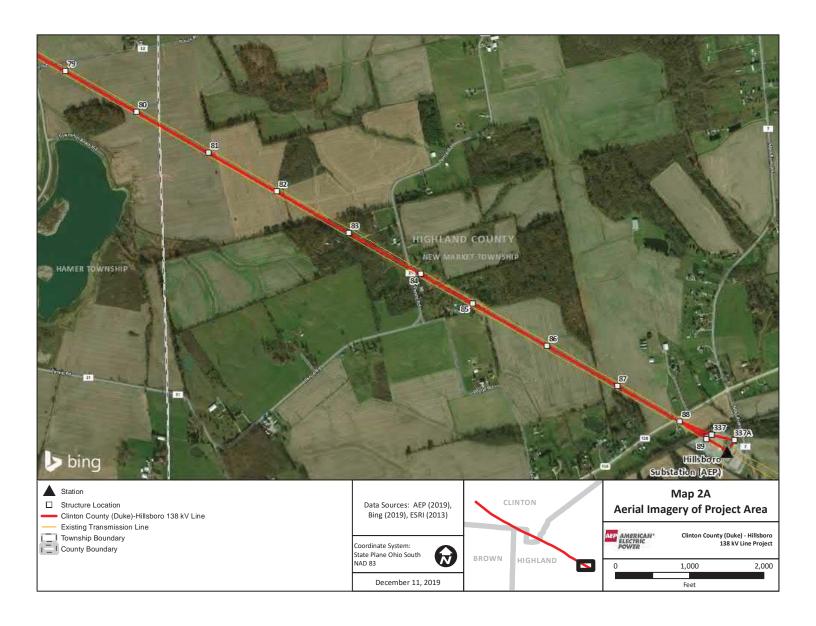
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

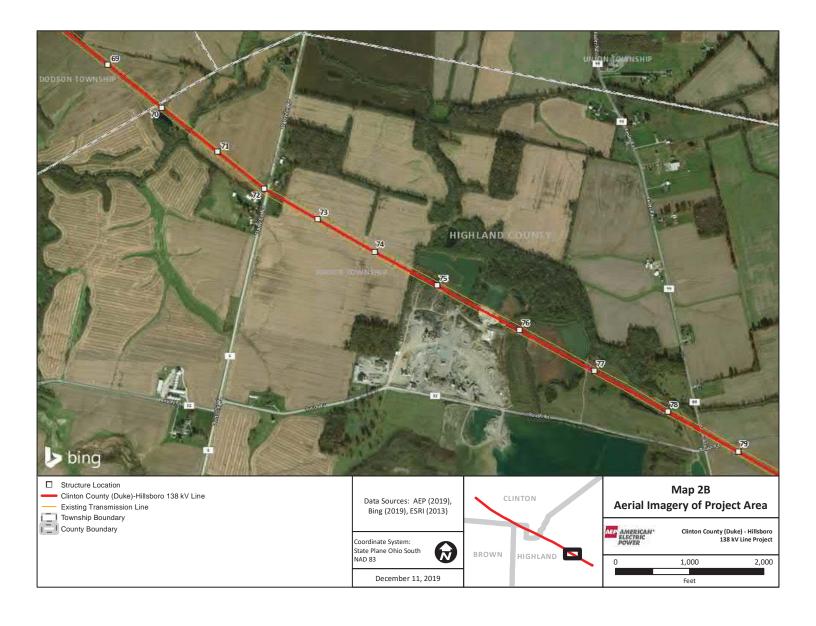
To the best of AEP Ohio Transco's knowledge, no unusual **conditions exist that would result in significant environmental**, **social**, **health**, **or safety impacts**.

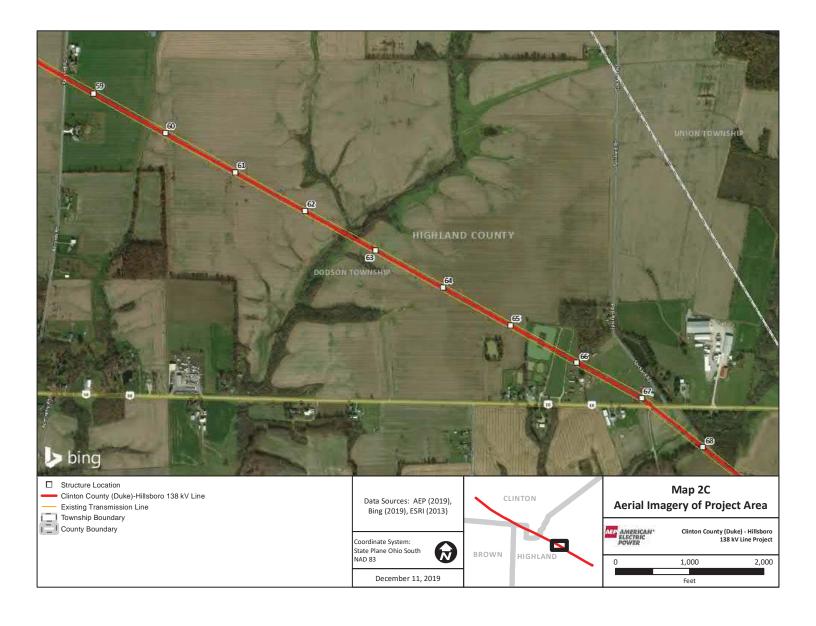
# APPENDIX A

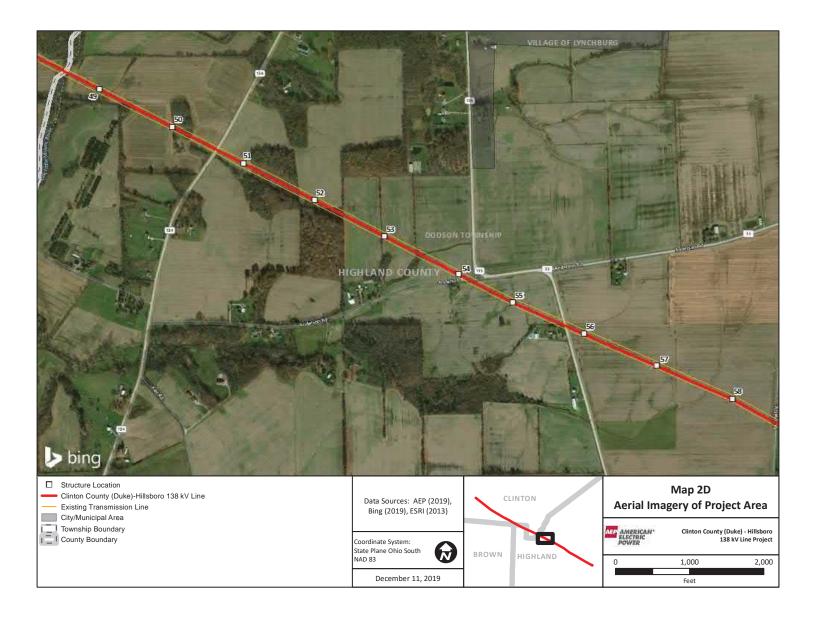
**PROJECT MAPS** 

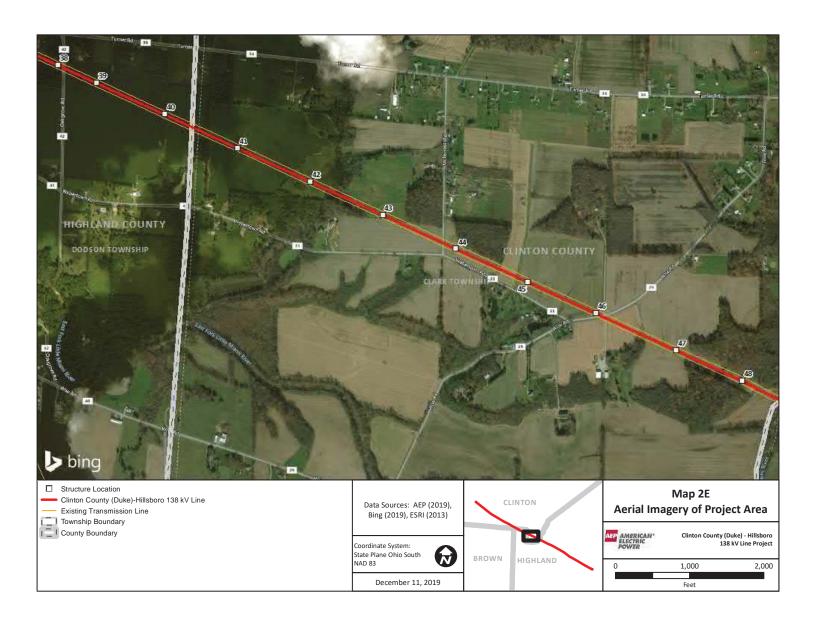


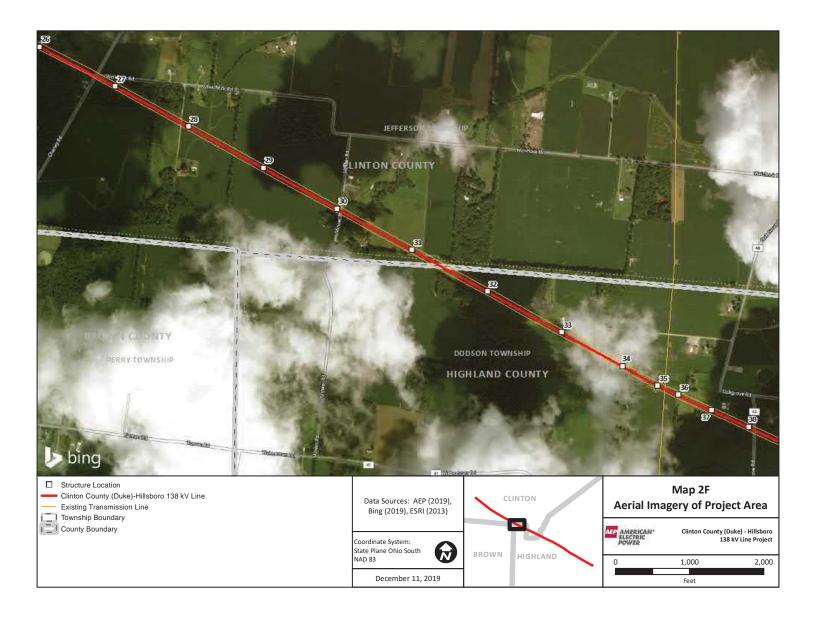


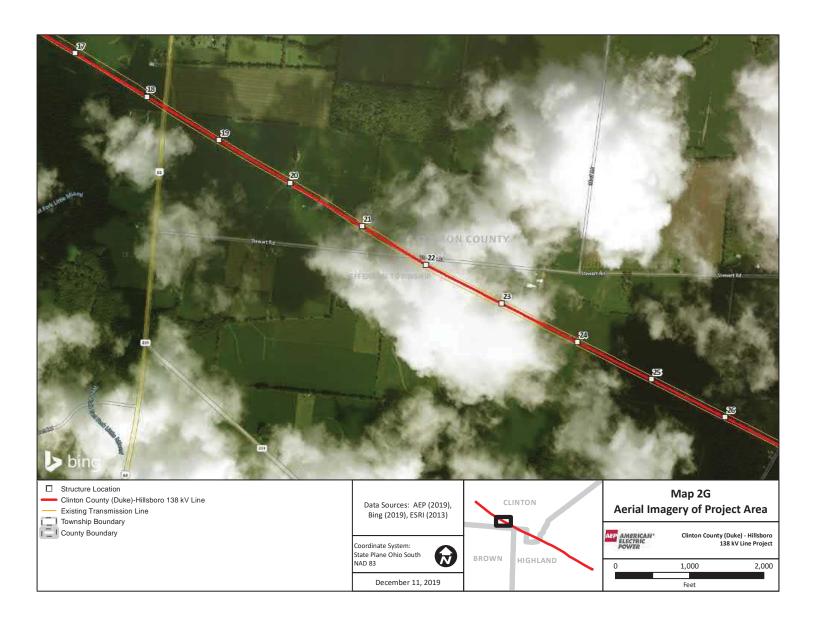


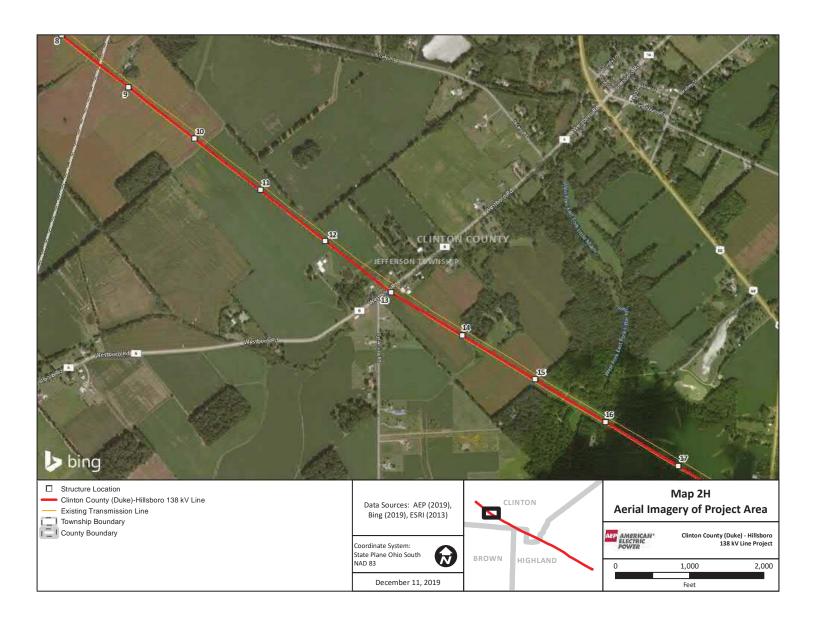


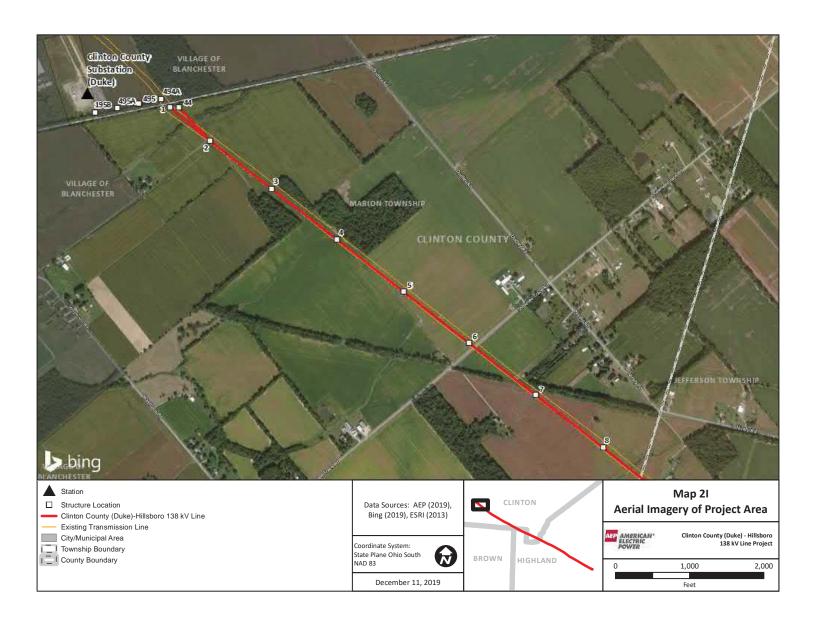






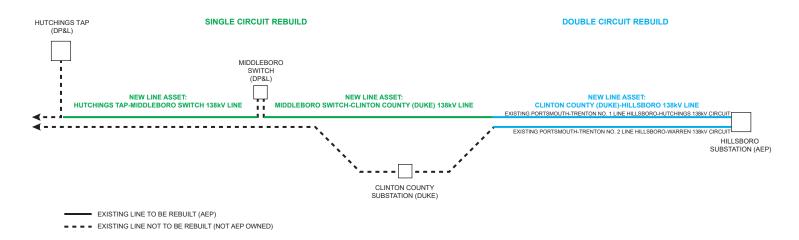






# LETTER OF NOTIFICATION FOR THE "HUTCHINGS TAP-MIDDLEBORO SWITCH 138kV LINE AND MIDDLEBORO SWITCH-CLINTON COUNTY (DUKE) 138kV TRANSMISSSION LINE PROJECT"

LETTER OF NOTIFICATION FOR THE "CLINTON COUNTY (DUKE)-HILLSBORO 138kV LINE PROJECT"



# APPENDIX B PJM AND LONG TERM FORECAST



# Previously Presented: 3/27/2018 SRRTEP

#### **Problem Statement:**

### Equipment Material/Condition/Performance/Risk:

The 36 miles of transmission line sections from Hillsboro to Hutchings Tap were constructed in 1943 using wood pole structures with 477 ACSR conductor (185 MVA rating). There are 1,098 open conditions on this line, including rotten cross-arms, burnt/broken insulators, and loose/broken conductor hardware.

# Operational Flexibility and Efficiency

In the event there is a failure of the line between Hillsboro and Hutchings, the driving time can be approximately 1-2 hours from the Chillicothe Service Center to Middleboro Switch. A MOAB will allow for automatic sectionalizing.

# **Selected Solution**

Rebuild two 138kV transmission lines between Hillsboro and Hutchings Tap as double circuit construction. Construct the 19-mile AEP segment from Middleboro to Hutchings Tap as a single circuit line using 954 ACSR conductor. (\$1599.1) Estimated Cost: \$113.1M

The 1200 A switch at Middleboro will be upgraded to 2000 A. The new switch will have SCADA control, auto sectionalizing and loop opening/line dropping capability. (\$1599.2)

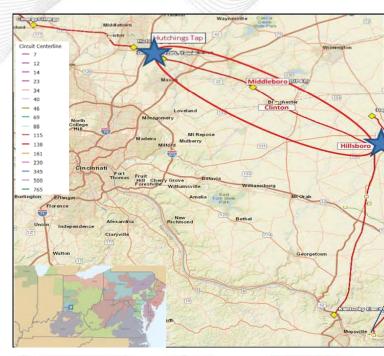
Estimated Cost: \$1.5M

**Total Estimated Transmission Cost: \$114.6M** 

Projected In-service: 12/01/2021

Project Status: Scoping

# AEP Transmission Zone: Supplemental Hillsboro-Hutchings Rebuild



 SRRTEP-West 4/17/2018
 134
 PJM©2018

# PUCO FORM FE-T9 AEP OHIO TRANSMISSION COMPANY SPECIFICATIONS OF PLANNED TRANSMISSION LINES

	SX	931
1.	LINE NAME AND NUMBER:	Hillsboro - Hutchings (DP&L) (S1599)
2.	POINTS OF ORIGIN AND TERMINATION	Hillsboro, Hutchings; INTERMEDIATE STATION - Middleboro (DP&L)
3.	RIGHTS-OF-WAY: LENGTH/WIDTH/CIRCUITS	19 mi (1 circuit) / 17 mi (2 circuit) / 100 ft
4.	VOLTAGE: DESIGN/OPERATE	138kV / 138kV
5.	APPLICATION FOR CERTIFICATE:	LON, September 2019
6.	CONSTRUCTION:	2020-2022
7.	CAPITAL INVESTMENT:	~\$68.4M
8.	PLANNED SUBSTATION:	NAME - N/A; TRANSMISSION VOLTAGE - N/A; ACREAGE - N/A; LOCATION - N/A
9.	SUPPORTING STRUCTURES:	Steel H-frame
10.	PARTICIPATION WITH OTHER UTILITIES	DP&L
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 138kV line, asset renewal of aging infrastructure
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure.
13.	MISCELLANEOUS:	N/A

# PUCO FORM FE-T9 AEP OHIO TRANSMISSION COMPANY SPECIFICATIONS OF PLANNED TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Hillsboro - Warren (Duke) (S1599)
2.	POINTS OF ORIGIN AND TERMINATION	Hillsboro, Warren; INTERMEDIATE STATION - Clinton (Duke)
3.	RIGHTS-OF-WAY: LENGTH/WIDTH/CIRCUITS	17 mi / 100 ft / 2 circuit
4.	VOLTAGE: DESIGN / OPERATE	138kV / 138kV
5.	APPLICATION FOR CERTIFICATE:	LON, September 2019
6.	CONSTRUCTION:	2020-2022
7.	CAPITAL INVESTMENT:	\$45.6M
8.	PLANNED SUBSTATION:	NAME - N/A; TRANSMISSION VOLTAGE - N/A; ACREAGE - N/A; LOCATION - N/A
9.	SUPPORTING STRUCTURES:	Steel H-frame
10.	PARTICIPATION WITH OTHER UTILITIES	Duke
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 138kV line, asset renewal of aging infrastructure
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure.
13.	MISCELLANEOUS:	N/A
	+	- 1

# APPENDIX C

WETLAND DELINEATION AND STREAM ASSESSMENT REPORT

# HILLSBORO-HUTCHINGS 138 KV TRANSMISSION LINE REBUILD PROJECT, WARREN, CLINTON AND HIGHLAND COUNTIES, OHIO

# WETLAND DELINEATION AND STREAM ASSESSMENT REPORT

Prepared for:

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



Prepared by:

525 Vine Street, Suite 1800 Cincinnati, Ohio 45202

Project #: 60556975

May 2018



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### LIST OF ACRONYMS and ABBREVIATIONS

AEP Ohio Transco American Electric Power Ohio Transmission Company

DOW Division of Wildlife

DBH Diameter at Breast Height

FAC Facultative

FACU Facultative Upland

FACW Facultative Wetland

GIS Geographic Information System

GPS Global Positioning System

HHEI Headwater Habitat Evaluation Index

IBI Index of Biotic Integrity

NHD National Hydrography Dataset

NRCS Natural Resources Conservation Service

NWI National Wetlands Inventory

OBL Obligate Wetland

ODNR Ohio Department of Natural Resources

OEPA Ohio Environmental Protection Agency

OHWM Ordinary High Water Mark

ONHD Ohio Natural Heritage Database

ORAM Ohio Rapid Assessment Method

PEM Palustrine Emergent Wetland

PHWH Primary Headwater Habitat

PFO Palustrine Forested Wetland

PSS Palustrine Scrub-Shrub Wetland

POW Palustrine Open Water Wetland

QHEI Qualitative Habitat Evaluation Index

ROW Right-of-way

UPL Upland



U.S. United States

USACE United States Army Corps of Engineers

USDA United States Department of Agriculture

USFWS United States Fish and Wildlife Service

USGS United States Geological Survey



### 1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to rebuild approximately 36 miles of 138 kV line in Highland, Clinton and Warren Counties, Ohio ("Project"). The project includes Line #1 from Hillsboro Station to Duke Energy's Clinton Station which is approximately 17 miles long, and Line #2 between Hillsboro Station and Dayton Power & Light's Middleboro Station, which is approximately 21 miles, and continues 15 miles to the Hutchings tap point approximately five miles southeast of Dayton Power & Light's Hutchings Station. Reroutes from a direct rebuild within existing right-of-way (ROW) will be explored within congested and environmentally sensitive areas. The proposed Project is illustrated on Figure 1.

The purpose of the field survey was to assess whether wetlands and other "waters of the United States (U.S.)" exist within the Project survey corridor. Secondarily, land uses were recorded in an effort to classify and characterize potential habitat for rare, threatened, and endangered species. This report will be used to assist AEP Ohio Transco's efforts to identify potential waters of the United States (U.S) and to avoid or minimize impacts to rare, threatened, and endangered species potentially present within the survey corridor during construction activities.

#### 2.0 METHODOLOGY

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

During December 2017, AECOM ecologists walked the Project survey corridor to conduct a wetland delineation and stream assessment. The survey corridor was 200-foot wide and covered the existing transmission line right-of-way (ROW). During the field survey, the physical boundaries of observed water features were recorded using sub-decimeter accurate Trimble Global Positioning System (GPS) units. The GPS data was imported into ArcMap Geographic Information System (GIS) software, where the data was then reviewed and edited for accuracy.

Land uses crossed by the Project survey corridor were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys. General land use types in the vicinity of the proposed Project include: agricultural fields, wooded areas, scrub-shrub, and maintained transmission line ROW. Agricultural fields and maintained transmission line ROW are the dominant land uses in the vicinity of the Project.



### 2.1 WETLAND DELINEATION

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

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

### 2.1.1 **SOILS**

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

# 2.1.2 HYDROLOGY

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



The *Regional Supplement* also states that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (five years out of 10, or 50 % probability) date of the last and first 28°F air temperature in the spring and fall, respectively. The National Weather Service WETS data obtained from the NRCS National Water and Climate Center reveals for Clinton County that in an average year, this period lasts from April 10 to October 26, or 199 days; in Highland County, this period lasts from April 7 to October 3, or 210 days; in Warren County, this period lasts from April 9 to October 25, or 199 days. In the Project corridor, five percent of the growing season equates to approximately 10 days.

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

#### 2.1.3 VEGETATION

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

At the time of the field survey, the Project survey corridor was observed with near freezing temperatures. Vegetation sampling for wetland delineation can be challenging when some plants are covered by snow or die back due to freezing temperatures or other factors (USACE, 2010). The end of the growing season is indicated when woody deciduous species lose their leaves or the last herbaceous plants cease flowering and their leaves become dry or brown, whichever occurs latest. The wetland delineation field work within the Project corridor was conducted after the occurrence of these events and therefore, outside the normal growing season. Conducting a wetland delineation with freezing temperatures and



outside the normal growing season can make identifying the wetland/upland boundary more challenging and may require further assessment during the next growing season.

#### 2.1.4 WETLAND CLASSIFICATIONS

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

- PEM Palustrine emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
- PFO Palustrine forested wetlands are characterized by woody vegetation that is 3 inches or more DBH, regardless of total height. These wetlands generally include an overstory of broadleaved and needle-leaved trees, an understory of young saplings and shrubs, and an herbaceous layer.

### 2.1.5 OHIO RAPID ASSESSMENT METHOD v. 5.0

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

# Category 1 Wetlands

Category 1 wetlands support minimal wildlife habitat, hydrological and recreational functions, and do not provide for or contain critical habitats for threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics: low



species diversity, no significant habitat for wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or is of low ecological functionality.

## Category 2 Wetlands

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

## Category 3 Wetlands

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

# 2.2 STREAM ASSESSMENT

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



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

### 2.2.1 OEPA QUALITATIVE HABITAT EVALUATION INDEX

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

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 15.75 in, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the OEPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams. Headwater (H) streams are those with a watershed area less than or equal to 20 square miles. Larger streams (L) are those with a watershed area greater than 20 square miles. The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L).

#### 2.2.2 OEPA PRIMARY HEADWATER HABITAT EVALUATION INDEX

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



watershed area less than or equal to 1.0 mi<sup>2</sup>, and a maximum depth of water pools equal to or less than 15.75 inches" (OEPA, 2012).

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

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

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

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

### 2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a rare, threatened, and endangered species review and general field habitat surveys within areas crossed by the Project survey corridor. This report will be used to assist AEP Ohio Transco's efforts to avoid impacts to rare, threatened and endangered species potentially present in the survey corridor during construction activities. The first phase of the survey involved a review of online lists of federal and state listed species. In addition to the review of available literature, AECOM submitted a request to the Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section soliciting comments on the Project. AECOM also submitted a coordination letter to the USFWS soliciting comments on the Project. Agency-identified species and available species-specific



information was reviewed to identify the various habitat types that listed species are known to inhabit. AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field survey in December 2017.

#### 3.0 RESULTS

Within the Project survey corridor, AECOM delineated 33 wetlands, 131 streams, and 31 ponds. These features are discussed in detail in the following sections.

## 3.1 WETLAND DELINEATION

## 3.1.1 Preliminary Soils Evaluation

Soils in the delineated wetlands were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Surveys of Clinton, Highland, and Warren Counties, Ohio (NRCS 2017) and the NRCS Hydric Soils Lists of Ohio, 42 soil series are mapped within the Project survey corridor (NRCS 2017). Of these soil series, 6 soil map units are listed as hydric. Table 1 provides a detailed overview of all soil series and soil map units within the Project survey corridor. Soil map units located within the Project survey corridor are shown on Figures 2A through 2KK.

TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE HILLSBORO-HUTCHINGS 138 kV TRANSMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Algiers	Ag	Algiers silt loam	Flood plains	Not Hydric	Blanchester (5%)
Atlas silt	AtB2	Atlas silt loam, 2 to 6 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
loam	AtC2	Atlas silt loam, 6 to 12 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
Blanchester	Bln3A	Blanchester silty clay loam, 0 to 1 percent slopes	Flats on till plains	Hydric	Blanchester (90%), Clermont (10%)
Boston- Bratton	BmC2	Boston-Bratton complex, 6 to 12 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
Brookston	Br	Brookston silty clay loam, fine- silty, 0 to 2 percent slopes	Depressions on till plains	Hydric	Brookston (90%), Clermont (5%)
Clermont	Cle1A	Clermont silt loam, 0 to 1 percent slopes	Flats on till plains, till plains, broad concave flats	Hydric	Clermont (90%), Blanchester (5%)



TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE HILLSBORO-HUTCHINGS 138 kV TRANSMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

		REBUILD PROJECT S	SURVEY CORRIDOR		
Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
0	CnB	Cincinnati silt loam, 2 to 6 percent slopes	Till plains	Not Hydric	Clermont (5%), Blanchester (2%0
Cincinnati	CnB2	Cincinnati silt loam, 2 to 6 percent slopes, eroded	Illinoin till plains	Not Hydric	N/A
	CnC2	Cincinnati silt loam, 6 to 12 percent slopes, eroded	Illinoin till plains	Not Hydric	N/A
Dana	DaB	Dana silt loam, 2 to 6 percent slopes	Ground moraines on till plains	Not Hydric	Brookston (5%)
Edenton	EbD2	Edenton silt loam, 12 to 18 percent slopes, moderately eroded	Till Plains	Not Hydric	N/A
Eden	EdD2	Eden Complex, 12 to 18 percent slopes, moderately eroded	Hills	Not Hydric	N/A
Lueii	EdF2	Eden complex, 25 to 35 percent slopes, moderately eroded	Hills	Not Hydric	N/A
Eel	Ee	Eel silt loam, 0 to 2 percent slopes, occasionally flooded	Flood plains, till plains	Not Hydric	Sloan (5%)
Fairmount- Eden	FaF2	Fairmount-Eden flaggy silty clay loams, 25 to 50 percent slopes, moderately eroded	Hills	Not Hydric	N/A
Fitchville	FcB	Fitchville sitl loam, 2 to 6 percent slopes	Lake plains	Not Hydric	Westland (5%)
Fincastle	FhA	Fincastle silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	Till plains on till plains	Not Hydric	Cyclone (5%), Ragsdale (5%)
Fox	FIB	Fox loam, 2 to 6 percent slopes	Stream terraces on outwash plains	Not Hydric	N/A
1 0%	FIC2	Fox loam, 6 to 12 percent slopes, moderately eroded	Terraces	Not Hydric	N/A
Genesee	Gd	Genesee fine sandy loam	Flood plains	Not Hydric	Sloan (5%)
Genesee	Gn	Genesee loam	Flood plains	Not Hydric	Sloan (5%)
Hennepin	HeF	Hennepin silt loam, 25 to 35 percent slopes	Till plains	Not Hydric	N/A
Hennepin- Miamian	HmE2	Hennepin-Miamian silt loams, 18 to 25 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
Henshaw	НоВ	Henshaw silt loam, 1 to 4 percent slopes	Stream terraces	Not Hydric	Patton (5%)
	HiD2	Hickory silt loam, 12 to 18 percent slopes, eroded	Till plains	Not Hydric	N/A
Hickory	HkC2	Hickory silt loam, 6 to 12 percent slopes, moderately eroded	Till plains	Not Hydric	N/A



TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE HILLSBORO-HUTCHINGS 138 kV TRANSMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

		REBUILD FROSECT S			Hydric
Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Component (%)
	HkD2	Hickory silt loam, 12 to 18 percent slopes, eroded	Till plains	Not Hydric	N/A
	HkE2	Hickory silt loam, 18 to 25 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
	HkF2	Hickory silt loam, 25-35 percent slopes, eroded	Till plains	Not Hydric	N/A
	HrC2	Hickory silt loam, 6 to 12 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
	HrD2	Hickory silt loam, 12 to 18 percent slopes, moderately eroded	Till plains	Not Hydric	N/A
	HsC3	Hickory clay loam, 6 to 12 percent slopes, severely eroded	Till plains	Not Hydric	N/A
	HsD3	Hickory clay loam, 12 to 18 percent slopes, severely eroded	Till plains	Not Hydric	N/A
Hickory-	HtE2	Hickory-Fairmount complex, 18 to 25 percent slopes, moderately eroded	Till plains, hills	Not Hydric	N/A
Fairmount	HtF2	Hickory-Fairmount complex, 25 to 50 percent slopes, moderately eroded	till plains, hills	Not Hydric	N/A
	JoR1A1	Jonesboro-Rossmoyne silt loams, 0 to 2 percent slopes	Rises on till plains, till plains, Illinoian till plains	Not Hydric	Clermont (4%)
Jonesboro-	JoR1B1	Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes	Rises on till plains, till plains, Illinoian till plains	Not Hydric	N/A
Rossmoyne	JoR1B2	Jonesboro-Rossmoyne silt loams, 2 to 6 percent slopes, eroded	Illinoin till plains, till plains	Not Hydric	N/A
	JrC2	Jonesboro-Rossmoyne silt loams, 6 to 12 percent slopes	Till plains	Not Hydric	N/A
Loudon	LoC2	Loudon silt loam, 6 to 12 percent slopes	Till plains	Not Hydric	N/A
Miamian	MmC3	Miamian clay loam, 6 to 12 percent slopes, severaly eroded	Till plains on till plains	Not Hydric	Brookston (5%)
Miamian- Russell	MrC2	Miamian-Russel silt loams, 6 to 12 percent slopes, eroded	Till plains on till plains	Not Hydric	Treaty (5%)
Morrisville	MvD2	Morrisville silty clay loam, 12 to 18 percent slopes	Till plains	Not Hydric	N/A
iviorrisville	MvE2	Morrisville silty clay loam, 18 to 25 percent slopes	Till plains	Not Hydric	N/A
Nicely	NhC2	Nicely silt loam, 6 to 12 percent slopes	Till plains	Not Hydric	N/A
Ockley	OcB	Ockley silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	Outwash plains, outwash terraces	Not Hydric	N/A



TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE HILLSBORO-HUTCHINGS 138 kV TRANSMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

REBUILD PROJECT SURVEY CORRIDOR Hydric										
Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Component (%)					
Patton	Pc	Patton silty clay loam, 0 to 2 percent slopes	Depressions on till plains	Hydric	Patton, drained (80%)					
Plattville	PIB	Plattville silt loam, 1 to 6 percent slopes	Till plains	Not Hydric	Brookston (5%)					
Ross	Rn	Ross loam, 0 to 2 percent slopes, occasionally flooded	Flood-plain steps, rivey valleys	Not Hydric	Sloan (5%)					
Rossmoyne	RpC2	Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded	Till plains	Not Hydric	N/A					
Rossilloylle	RsC3	Rossmoyne silty clay loam, 6 to 12 percent slopes, severely eroded	Till plains	Not Hydric	Clermont (2%)					
Duranii	RvA	Russell-Miamian silt loams, 0 to 2 percent slopes	Till Plains	Not Hydric	Brookston (3%), Ragsdale (2%)					
Russell- Miamian	RvB	Russell-Miamian silt loams, 2 to 6 percent slopes	Till plains	Not Hydric	N/A					
	RvB2	Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded	Till plains	Not Hydric	N/A					
Shoals	Sh	Shoals silt loam, 0 to 2 percent slopes, frequently flooded	Flood plains on alluvial plains	Not Hydric	Sloan (4%)					
Sleeth	SIA	Sleeth silt loam, 0 to 2 percent slopes	Outwash terraces	Not Hydric	Westland (5%)					
Sligo	SmA	Sligo silt loam, 0 to 1 percent slopes, occasionally flooded	Flood plains	Not Hydric	Sloan (5%)					
Sloan	SnA	Sloan silt loam, sandy substratum, 0 to 1 percent slopes, occasionally flooded	Depression on flood plains	Hydric	Sloan (90%)					
	WIA	Williamsburg silt loam, 0 to 2 percent slopes	High terraces	Not Hydric	N/A					
Williamsburg	WIB	Williamsburg silt loam, 2 to 6 percent slopes	High terraces	Not Hydric	N/A					
	WIC2	Williamsburg silt loam, 6 to 12 percent slopes, moderatley eroded	High terraces	Not Hydric	N/A					
Westland	Ws	Westland silt loam, overwash	Outwash terraces	Hydric	Westland (100%)					
Westboro-	WsS1A1	Westboro-Schaffer silt loams, 0 to 2 percent slopes	Till plains, Illinoian till plains	Not Hydric	Clermont (9%)					
Schaffer	WsS1B1 2 to 4 percent slopes		Flats on till plains, flats	Not Hydric	Clermont (2%)					
	WyB Wynn silt loam, 2 to 6 percent slopes		Till plains	Not Hydric	N/A					
Wynn	siopes, moderately eroded		Till plains	Not Hydric	N/A					
WyC2 Wynn silt loam, 6 to 12 percent slopes, moderately eroded			Till plains	Not Hydric	N/A					



TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE HILLSBORO-HUTCHINGS 138 kV TRANSMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Xenia	XeB	Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	Till plains on till plains	Not Hydric	Cyclone (5%)

<sup>(1)</sup> Data sources include:

USDA, NRCS. 2017 Soil Survey Geographic (SSURGO) Database. Available online at: https://websoilsurvey.nrcs.usda.gov/app/USDA, NRCS. December 2015. National Hydric Soils List by State. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/

# 3.1.2 National Wetland Inventory Map Review

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

According to the NWI maps of the Monroe, Lebanon, Oregonia, Pleasant Plain, Blanchester, Martinsville, Lynchburg, and New Market, Ohio quadrangles, the Project survey corridor contains 81 mapped NWI wetlands. The NWI wetlands were identified as:

- one palustrine, aquatic bed, intermittently exposed, excavated wetland (PABGx);
- one palustrine emergent, persistent, temporarily flooded, partly drained/ditched wetland (PEM1Ad),
- one palustrine emergent, persistent, seasonally flooded, diked/impounded wetland (PEM1Ch);
- one palustrine emergent, persistent, semipermanently flooded, diked/impounded wetland (PEM1Fh);
- one palustrine, forested, broad-leaf deciduous, temporarily flooded wetland (PFO1A);
- one palustrine, forested, broad-leaf deciduous, temporarily flooded, partly drained/ditched wetland (PFO1Ad);
- one palustrine, shrub/scrub, broad-leaved deciduous, temporarily flooded wetland (PSS1A);
- 23 palustrine, unconsolidated bottom, intermittently exposed, diked/impounded wetlands (PUBGh);
- six palustrine, unconsolidated bottom, intermittently exposed, excavated wetlands (PUBGx);
- one riverine, lower perennial, unconsolidated bottom, intermittently exposed wetland (R2UBG);
- five riverine, lower perennial, unconsolidated bottom, permanently flooded wetlands (R2UBH);
- one riverine, lower perennial, unconsolidated shore, temporarily flooded wetland (R2USA);
- two riverine, upper perennial, unconsolidated bottom, permanently flooded wetlands (R3UBH);
- 22 riverine, intermittent, stream bed, seasonally flooded wetlands (R4SBC); and



• 14 riverine, unknown perennial, unconsolidated bottom, permanently flooded wetland (R5UBH). The locations of the NWI mapped wetlands are shown on Figure 2A through Figure 2KK.

#### 3.1.3 Delineated Wetlands

During the field survey, AECOM identified a total of 33 wetlands, ranging in size from <0.01 to 1.65 acres, within the Project survey corridor. Some wetland boundaries extend beyond the Project survey corridor, but only what was identified within the Project survey corridor was assessed. The 33 wetlands within the Project survey corridor are of two different wetland habitat types: 32 PEM wetlands and one PFO wetland. See Table 2 for a summary of the delineated wetlands within the Project survey corridor.

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

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

TABLE 2
DELINEATED WETLANDS WITHIN THE HILLSBORO-HUTCHINGS 138kV TRANMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

Wetland Name	Latitude	Longitude	Cowardin Wetland Type <sup>a</sup>	ORAM Score	ORAM Category	Length Crossed by Centerline (feet) <sup>b</sup>	Acreage within Project Survey Corridor
Wetland 01	39.180753	-83.694444	PEM	28.0	Category 1	45	0.12
Wetland 02	39.181710	-83.696989	PEM	27.0	Category 1	157	0.21
Wetland 03	39.189850	-83.715317	PEM	15.0	Category 1	NC	0.05
Wetland 04	39.190437	-83.716223	PEM	14.0	Category 1	NC	<0.01
Wetland 05	39.191112	-83.718549	PEM	18.0	Category 1	237	1.23
Wetland 06	39.192082	-83.720767	PEM	16.0	Category 1	55	0.54
Wetland 07	39.245208	-83.838113	PEM	15.5	Category 1	NC	0.25
Wetland 08	39.224588	-83.796277	PEM	21.5	Category 1	13	0.03
Wetland 09	39.238332	-83.834460	PEM	15.5	Category 1	NC	0.01
Wetland 10	39.242234	-83.845319	PEM	16.5	Category 1	NC	0.04
Wetland 11	39.252677	-83.871157	PEM	31.0	Category 2	466	1.65
Wetland 12	39.269705	-83.911792	PEM	27.5	Category 1	16	0.07
Wetland 13	39.281729	-83.933788	PEM	17.5	Category 1	NC	0.06
Wetland 14	39.295808	-83.957814	PEM	11.0	Category 1	75	0.31
Wetland 15	39.318802	-83.992668	PEM	26.0	Category 1	14	0.06
Wetland 16	39.327323	-84.007113	PEM	26.5	Category 1	NC	0.11
Wetland 17	39.340064	-84.028032	PEM	22.0	Category 1	285	0.58



TABLE 2
DELINEATED WETLANDS WITHIN THE HILLSBORO-HUTCHINGS 138kV TRANMISSION LINE
REBUILD PROJECT SURVEY CORRIDOR

Wetland Name	Latitude	Longitude	Cowardin Wetland Type <sup>a</sup>	ORAM Score	ORAM Category	Length Crossed by Centerline (feet) <sup>b</sup>	Acreage within Project Survey Corridor
Wetland 18	39.342994	-84.032716	PEM	14.5	Category 1	69	0.20
Wetland 19	39.346064	-84.038162	PEM	18.0	Category 1	NC	0.08
Wetland 20	39.356607	-84.055840	PEM	16.5	Category 1	NC	0.09
Wetland 21	39.363071	-84.071842	PEM	18.0	Category 1	141	0.38
Wetland 22	39.364992	-84.078353	PEM	26.0	Category 1	43	0.18
Wetland 23a	39.365231	-84.079431	PEM	37.0	Category 2	13	0.07
Wetland 23b	39.365231	-84.079431	PFO	37.0	Category 2	NC	<0.01
Wetland 24	39.365766	-84.080606	PEM	26.0	Category 1	NC	0.20
Wetland 25	39.376291	-84.116877	PEM	15.5	Category 1	20	0.08
Wetland 26	39.383181	-84.142236	PEM	20.5	Category 1	76	0.14
Wetland 27	39.387658	-84.159192	PEM	17.5	Category 1	45	0.05
Wetland 28	39.388706	-84.163315	PEM	29.0	Category 1	232	0.91
Wetland 29	39.402562	-84.211626	PEM	15.5	Category 1	13	0.02
Wetland 30	39.414032	-84.251544	PEM	16.5	Category 1	NC	0.08
Wetland 31	39.415139	-84.257051	PEM	17.0	Category 1	NC	0.01
Wetland 32	39.417382	-84.269792	PEM	26.0	Category 1	53	0.06
Total: 33 Wetl	ands					2,068	7.89

Cowardin Wetland Type<sup>a</sup>: PEM = palustrine emergent, PFO = palustrine forested Linear Feet Crossed by Centerline (feet)<sup>b</sup>: NC = Not Crossed by proposed centerline

# 3.1.4 Delineated Wetlands ORAM V5.0 Results

Within the Project survey corridor, 30 wetlands are Category 1 wetlands and three wetlands are Category 2 wetlands. Wetland 14 received the lowest ORAM score, 11, while Wetlands 23a and 23b had the highest score, 37. A breakdown of ORAM scores can be found in Table 2 and Table 3. Completed ORAM forms are provided in Appendix B.

## Category 1 Wetlands

The Category 1 wetlands delineated within the Project survey consist of 30 PEM wetlands. The lowest scoring Category 1 wetland was Wetland 14, with a score of 11 while Wetland 28 scored 29. The wetlands exhibited very narrow to medium upland buffers and a range of very low (2<sup>nd</sup> growth or older forest) to high intensive surrounding land use (agricultural). The wetlands also exhibited poor to fair plant community development with a sparse to extensive percentage of invasive species, and characteristically had habitat and hydrology in the early stages of recovering from previous manipulation due to mowing, clear cutting, nutrient enrichment, and other disturbances.



## Category 2 Wetlands

The three Category 2 wetlands delineated within the Project survey corridor include two PEM wetlands and one PFO wetland. The lowest Category 2 wetland was Wetland 11 with a score of 31 and the highest scoring wetlands were Wetlands 23a and 23b, both with a score of 37. These wetlands generally exhibited medium upland buffers and low (old field, shrub land, and young second growth forest) to moderately high land use (residential, fenced, pasture, park, and conservation tillage). These wetlands also exhibited fair habitat development with a nearly absent to sparse coverage of invasive species. These wetlands characteristically had habitat and hydrology recovering or recovered from previous manipulation due to mowing, selective cutting, and other likely disturbances.

### Category 3 Wetlands

No Category 3 wetlands were identified during the surveys.

TABLE 3
SUMMARY OF DELINEATED WETLANDS WITHIN THE HILLSBORO-HUTCHINGS 138kV
TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Cowardin Wetland Type <sup>a</sup>	ORAM Category 1	ORAM Category 2	ORAM Category 3	Number of Wetlands	Acreage within Project Survey Corridor	Length Crossed by Centerline (feet) <sup>b</sup>
PEM	30	2	0	32	7.88	2068
PFO	0	1	0	1	<0.01	NC
Total	30	3	0	33	7.89	2068

Cowardin Wetland Type<sup>a</sup>: PFO = palustrine forested, PEM = palustrine emergent

Linear Feet Crossed by Centerline (feet)<sup>b</sup>: NC = Not crossed by centerline

## 3.2 STREAM CROSSINGS

AECOM identified 131 streams, totaling 37,745 linear feet, within the Project survey corridor, as listed in Table 4. The streams are comprised of 50 ephemeral streams, 55 intermittent streams, and 26 perennial streams. The locations of the streams identified within the survey corridor are shown on Figures 3A through 3BBBB.

The OEPA has established water use designation for streams throughout Ohio as outlined in the Ohio Administrative Code (OAC), OAC-3745-1-07. Water use designations within the Little Miami River drainage basin are regulated under OAC-3745-1-18. The Little Miami River was identified with a state of Ohio aquatic use designation of Exceptional Warmwater habitat (EWH) and Second Creek, Turtle Creek and Todd Fork were identified with a state of Ohio aquatic use designation of Warmwater habitat (WWH).



HHEI evaluations were conducted on 110 streams within the Project survey corridor. QHEI evaluations were conducted on 17 streams in the survey corridor and four streams (Little Miami River, Second Creek, Turtle Creek and Todd Fork) were not assessed since they are larger waterbodies and have an OEPA aquatic use designation. The evaluations were conducted at or near the proposed transmission line crossing or access road crossing of each stream. These streams were identified using USGS topographic maps, aerial photography, and field reconnaissance.

AECOM has preliminarily determined that all assessed streams within the Project survey corridor appear to be jurisdictional (i.e., waters of the U.S.), as they all appear to be tributaries that flow into or combine with other streams (waters of the U.S).

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

311	CANO IDE	MILIED AM	I HIN HILLSBUKU	HOLCHING	JO I JOK V	INAMONIA	SSION LIN	E KEBUIL	D PROJECT SON	VEI CORK	IDOK
Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 01	39.174027	-83.677575	Tributary to Rocky Fork	Ephemeral	1	4	HHEI	28.0	Modified Class 1	NC	94
Stream 02	39.175462	-83.682906	Tributary to Rocky Fork	Intermittent	5	2	HHEI	40.0	Modified Class 2	NC	105
Stream 03	39.178746	-83.689573	Tributary to Rocky Fork	Ephemeral	.8	1	HHEI	17.0	Modified Class 1	NC	207
Stream 04	39.179916	-83.693071	Tributary to Rocky Fork	Ephemeral	.5	.5	HHEI	18.0	Modified Class 1	Yes	237
Stream 05	39.180451	-83.693275	Tributary to Rocky Fork	Ephemeral	1	1	HHEI	18.0	Modified Class 1	NC	113
Stream 06	39.180791	-83.694430	Tributary to South Fork Dodson Creek	Intermittent	1	1	HHEI	18.0	Modified Class 1	Yes	380
Stream 07	39.180934	-83.694829	Tributary to South Fork Dodson Creek	Ephemeral	1	1	HHEI	18.0	Modified Class 1	NC	192
Stream 08	39.181651	-83.698120	Tributary to South Fork Dodson Creek	Intermittent	1	3	HHEI	29.0	Modified Class 1	Yes	786
Stream 09	39.186941	-83.709243	Tributary to South Fork Dodson Creek	Ephemeral	1	2	HHEI	25.0	Modified Class 1	Yes	969
Stream 10	39.188242	-83.712045	Tributary to South Fork Dodson Creek	Intermittent	3	6	HHEI	40.0	Modified Class 2	Yes	317
Stream 11	39.189282	-83.713714	Tributary to South Fork Dodson Creek	Ephemeral	1	1	HHEI	18.0	Modified Class 1	NC	48
Stream 12	39.191495	-83.719648	Tributary to South Fork Dodson Creek	Intermittent	2	6	HHEI	36.0	Modified Class 2	Yes	255
Stream 13	39.193395	-83.725072	Tributary to Pond 05	Intermittent	1	3	HHEI	30.0	Modified Class 1	Yes	90
Stream 14	39.196391	-83.732432	Tributary to South Fork Dodson Creek	Ephemeral	2	2	HHEI	18.0	Modified Class 1	NC	21
Stream 15	39.197013	-83.732641	Tributary to South Fork Dodson Creek	Ephemeral	1	1	HHEI	19.0	Modified Class 1	Yes	253
Stream 16	39.198855	-83.735783	Tributary to South Fork Dodson Creek	Perennial	15	24	QHEI	55.5	Good Warmwater	Yes	209
Stream 17	39.200010	-83.737470	Tributary to South Fork Dodson Creek	Ephemeral	1	1	HHEI	18.0	Modified Class 1	Yes	754
Stream 18	39.203330	-83.743532	Dodson Creek	Perennial	12	18	QHEI	47.5	Fair Warmwater	Yes	214

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

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Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 19	39.210735	-83.759483	Tributary to Dodson Creek	Perennial	10	-	QHEI	48.0	Fair Warmwater	Yes	397
Stream 20	39.210783	-83.759543	Tributary to Dodson Creek	Intermittent	4.5	6	HHEI	57.0	Class 2	NC	33
Stream 21	39.214492	-83.769075	Tributary to Dodson Creek	Intermittent	3.5	10	HHEI	57.0	Modified Class 2	Yes	213
Stream 22	39.219718	-83.783578	Tributary to Anthony Run	Intermittent	3	5	HHEI	44.0	Modified Class 2	Yes	470
Stream 23	39.222180	-83.789988	Tributary to Anthony Run	Intermittent	2.5	4	HHEI	44.0	Modified Class 2	Yes	234
Stream 24	39.227290	-83.801937	Tributary to East Fork Little Miami River	Intermittent	2.0	2	HHEI	37.0	Modified Class 2	Yes	1,259
Stream 25	39.225130	-83.797574	Tributary to East Fork Little Miami River	Ephemeral	1	1	HHEI	19.0	Class 1	Yes	220
Stream 26	39.228840	-83.807049	East Fork Little Miami River	Perennial	30	24	QHEI	56.5	Good Warmwater	Yes	211
Stream 27	39.229801	-83.810021	Tributary to East Fork Little Miami River	Intermittent	2.0	2	HHEI	20.0	Class 1	Yes	232
Stream 28	39.230879	-83.813739	Tributary to East Fork Little Miami River	Intermittent	2.0	2	HHEI	21.0	Modified Class 1	NC	55
Stream 29	39.233201	-83.819751	Tributary to East Fork Little Miami River	Ephemeral	1.0	2	HHEI	19.0	Modified Class 1	Yes	206
Stream 30	39.235751	-83.827707	Tributary to East Fork Little Miami River	Ephemeral	1.5	1	HHEI	20.0	Class 1	Yes	362
Stream 31	39.236270	-83.828552	Tributary to East Fork Little Miami River	Perennial	12	16	QHEI	55.0	Good Warmwater	Yes	234
Stream 32	39.238363	-83.834863	Tributary to East Fork Little Miami River	Intermittent	1.0	1	HHEI	18.0	Class 1	Yes	213
Stream 33	39.240669	-83.842027	Tributary to East Fork Little Miami River	Intermittent	2.0	2	HHEI	20.0	Modified Class 1	NC	330

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 34	39.240854	-83.842536	Tributary to East Fork Little Miami River	Perennial	8.0	12	QHEI	56.5	Good Warmwater	Yes	325
Stream 35	39.241633	-83.844538	Tributary to East Fork Little Miami River	Intermittent	3.0	1	HHEI	29.0	Modified Class 1	Yes	317
Stream 36	39.244773	-83.851935	Tributary to East Fork Little Miami River	Intermittent	1.0	1	HHEI	20.0	Modified Class 1	Yes	212
Stream 37	39.244833	-83.852421	Tributary to East Fork Little Miami River	Intermittent	2.5	1	HHEI	18.0	Modified Class 1	Yes	270
Stream 38	39.248398	-83.860834	Tributary to East Fork Little Miami River	Perennial	6.0	6	QHEI	59.0	Good Warmwater	Yes	269
Stream 39	39.248431	-83.861836	Tributary to East Fork Little Miami River	Ephemeral	2.0	1	HHEI	20.0	Modified Class 1	NC	21
Stream 40	39.251274	-83.867894	Tributary to East Fork Little Miami River	Intermittent	4.0	16	HHEI	52.0	Class 2	Yes	254
Stream 41	39.258146	-83.885557	Tributary to West Fork Little Miami River	Perennial	7.0	12	QHEI	45.3	Fair Warmwater	Yes	215
Stream 42	39.269580	-83.912658	West Fork Little Miami River	Perennial	-	-	QHEI	60.8	Good Warmwater	Yes	203
Stream 43	39.271820	-83.916519	Tributary to West Fork Little Miami River	Intermittent	2.5	3	HHEI	19.0	Modified Class 1	Yes	252
Stream 44	39.274139	-83.921099	Tributary to West Fork Little Miami River	Ephemeral	1.0	0.5	HHEI	18.0	Modified Class 1	NC	175
Stream 45	39.274433	-83.921777	Tributary to West Fork Little Miami River	Perennial	6.0	12	QHEI	53.0	Fair Warmwater	Yes	235
Stream 46	39.282370	-83.935352	Tributary to West Fork Little Miami River	Intermittent	3.5	3	HHEI	46.0	Class 2	Yes	205
Stream 47	39.294875	-83.956484	Whitakers Run	Intermittent	3.5	6	HHEI	46.0	Class 2	Yes	213

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 48	39.294786	-83.956788	Tributary to Whitakers Run	Intermittent	1.5	1	HHEI	26.0	Class 1	NC	57
Stream 49	39.302318	-83.967370	Tributary to Second Creek	Ephemeral	1.0	1	HHEI	18.0	Modified Class 1	Yes	202
Stream 50	39.306612	-83.973784	Tributary to Second Creek	Ephemeral	1.0	1	HHEI	19.0	Modified Class 1	Yes	153
Stream 51	39.306751	-83.973988	Second Creek	Perennial	10.0	12	NA	NA	Warmwater Habitat*	Yes	207
Stream 52	39.312362	-83.982428	Tributary to Lick Run	Perennial	5.5	8	QHEI	27.0	Very Poor Warmwater	Yes	207
Stream 53	39.317355	-83.990586	Tributary to Lick Run	Ephemeral	2	1	HHEI	22.0	Modified Class 1	Yes	344
Stream 54	39.318184	-83.991324	Tributary to Lick Run	Intermittent	2.5	3	HHEI	35.0	Modified Class 2	Yes	287
Stream 55	39.321088	-83.996674	Lick Run	Perennial	12	16	QHEI	60.0	Good Warmwater	Yes	229
Stream 56	39.322225	-83.998477	Tributary to Lick Run	Ephemeral	1.5	1	HHEI	21.0	Modified Class 1	Yes	334
Stream 57	39.326919	-84.006126	Tributary to Lick Run	Intermittent	2	4	HHEI	29.0	Modified Class 1	Yes	584
Stream 58	39.327807	-84.007294	Tributary to Lick Run	Perennial	6	12	HHEI	58.0	Modified Class 2	Yes	374
Stream 59	39.329068	-84.009999	Tributary to Lick Run	Ephemeral	1	1	HHEI	18.0	Modified Class 1	Yes	285
Stream 60	39.329221	-84.010662	Tributary to Lick Run	Ephemeral	1.5	1	HHEI	20.0	Modified Class 1	NC	44
Stream 61	39.331906	-84.014461	Tributary to Lick Run	Perennial	15	20	QHEI	62.0	Good Warmwater	Yes	683
Stream 62	39.332275	-84.014780	Tributary to Lick Run	Ephemeral	1.5	1	HHEI	21.0	Modified Class 1	Yes	84
Stream 63	39.334572	-84.018939	Tributary to Lick Run	Intermittent	1.5	1	HHEI	22.0	Modified Class 1	Yes	568
Stream 64	39.337564	-84.023796	Tributary to Lick Run	Ephemeral	1.5	1	HHEI	22.0	Modified Class 1	Yes	445
Stream 65	39.341130	-84.029797	Kunkers Run	Intermittent	3	1	HHEI	20.0	Modified Class 1	Yes	249

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 66	39.343229	-84.033106	Tributary to Kunkers Run	Intermittent	3	3	HHEI	38.0	Modified Class 2	Yes	226
Stream 67	39.347364	-84.039535	Tributary to Sugar Run	Intermittent	2	2	HHEI	28.0	Modified Class 1	Yes	689
Stream 68	39.347983	-84.041137	Sugar Run	Perennial	8.5	9	HHEI	69.0	Modified Class 2	Yes	257
Stream 69	39.348515	-84.042216	Tributary to Sugar Run	Ephemeral	2	1	HHEI	21.0	Modified Class 1	NC	56
Stream 70	39.352000	-84.047137	Tributary to Todd Fork	Ephemeral	2.5	1	HHEI	22.0	Modified Class 2	Yes	551
Stream 71	39.351928	-84.047805	Tributary to Todd Fork	Ephemeral	3	1	HHEI	31.0	Class 2	NC	53
Stream 72	39.352151	-84.047787	Tributary to Todd Fork	Intermittent	9	7	HHEI	67.0	Class 2	Yes	245
Stream 73	39.357493	-84.057031	Tributary to Todd Fork	Intermittent	3	2	HHEI	30.0	Modified Class 2	Yes	421
Stream 74	39.361021	-84.066122	Todd Fork	Perennial	50	>36	NA	NA	Warmwater Habitat*	Yes	207
Stream 75	39.361546	-84.067889	Tributary to Todd Fork	Ephemeral	2	0	HHEI	18.0	Modified Class 1	Yes	490
Stream 76	39.365306	-84.079173	Tributary to Whitakers Run	Intermittent	2	5	HHEI	40.0	Modified Class 2	Yes	260
Stream 77	39.365622	-84.080074	Tributary to Whitakers Run	Ephemeral	1	1	HHEI	21.0	Modified Class 1	Yes	189
Stream 78	39.367722	-84.086266	Tributary To Little Miami River	Ephemeral	1.5	1	HHEI	22.0	Modified Class 1	NC	683
Stream 79	39.368029	-84.087360	Tributary to Little Miami River	Intermittent	3	3	HHEI	41.0	Modified Class 2	Yes	252
Stream 80	39.367950	-84.087752	Tributary to Little Miami River	Ephemeral	1	0	HHEI	16.0	Modified Class 1	NC	73
Stream 81	39.369715	-84.092764	Tributary to Little Miami River	Intermittent	2	2	HHEI	21.0	Modified Class 1	Yes	324
Stream 82	39.371444	-84.098499	Little Miami River	Perennial	100	>36	NA	NA	Exceptional Warmwater Habitat*	Yes	460
Stream 83	39.371939	-84.099471	Tributary to Little Miami River	Ephemeral	3	2	HHEI	30.0	Modified Class 2	Yes	451

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 84	39.372049	-84.099921	Tributary to Little Miami River	Ephemeral	2	0	HHEI	30.0	Modified Class 2	NC	193
Stream 85	39.372817	-84.104637	Tributary to Little Miami River	Ephemeral	1.5	2	HHEI	37.0	Modified Class 2	NC	96
Stream 86	39.373196	-84.105781	Tributary to Little Miami River	Ephemeral	2	1	HHEI	21.0	Modified Class 1	NC	119
Stream 87	39.373405	-84.106380	Tributary to Little Miami River	Intermittent	2.5	2	HHEI	38.0	Modified Class 2	Yes	397
Stream 88	39.374907	-84.111588	Tributary to Little Miami River	Ephemeral	1.5	0	HHEI	17.0	Class 1	NC	118
Stream 89	39.374996	-84.111820	Tributary to Little Miami River	Intermittent	6	9	HHEI	64.0	Class 2	Yes	223
Stream 90	39.375226	-84.113511	Tributary to Little Miami River	Intermittent	6	15	HHEI	62.0	Modified Class 2	Yes	376
Stream 91	39.376566	-84.117788	Tributary to Muntz Run	Intermittent	1	2	HHEI	32.0	Modified Class 2	Yes	339
Stream 92	39.379590	-84.129212	Grays Run	Intermittent	4.5	8	HHEI	61.0	Modified Class 2	Yes	214
Stream 93	39.381148	-84.134976	Halls Creek	Perennial	12	20	QHEI	58.5	Good Warmwater	Yes	298
Stream 94	39.381786	-84.136598	Tributary to Halls Creek	Ephemeral	1.0	1	HHEI	21.0	Modified Class 1	Yes	292
Stream 95	39.381940	-84.137933	Tributary to Halls Creek	Intermittent	3.0	6	HHEI	50.0	Modified Class 2	Yes	275
Stream 96	39.384811	-84.149407	Tributary to Halls Creek	Intermittent	3.0	3	HHEI	41.0	Modified Class 2	Yes	321
Stream 97	39.385875	-84.153270	Tributary to Halls Creek	Perennial	6.0	10	HHEI	64.0	Modified Class 2	Yes	230
Stream 98	39.386231	-84.153631	Tributary to Halls Creek	Intermittent	2.5	4	HHEI	35.0	Modified Class 2	NC	232
Stream 99	39.386474	-84.154535	Tributary to Halls Creek	Ephemeral	1.5	0	HHEI	16.0	Modified Class 1	Yes	112
Stream 100	39.387118	-84.156739	Tributary to Halls Creek	Ephemeral	1.0	0	HHEI	15.0	Modified Class 1	Yes	174
Stream 101	39.389676	-84.166922	Baker Creek	Intermittent	3.0	3	HHEI	34.0	Modified Class 2	Yes	314

TABLE 4
STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 102	39.391026	-84.170928	Tributary to Dry Run	Ephemeral	2.0	0	HHEI	17.0	Modified Class 1	NC	111
Stream 103	39.391214	-84.173245	Tributary to Dry Run	Intermittent	3	6	HHEI	45.0	Modified Class 2	Yes	1,579
Stream 104	39.391522	-84.174566	Tributary to Dry Run	Ephemeral	1.5	1	HHEI	21.0	Modified Class 1	NC	105
Stream 105	39.392135	-84.176626	Tributary to Dry Run	Ephemeral	1.0	1	HHEI	21.0	Modified Class 1	Yes	257
Stream 106	39.392696	-84.177765	Tributary to Dry Run	Perennial	4.0	8	HHEI	61.0	Modified Class 2	Yes	380
Stream 107	39.393003	-84.179518	Tributary to Dry Run	Intermittent	2.5	4	HHEI	37.0	Modified Class 2	Yes	257
Stream 108	39.395200	-84.188974	Dry Run	Perennial	20	16	QHEI	52.0	Fair Warmwater	Yes	271
Stream 109	39.395361	-84.189927	Tributary to Dry Run	Intermittent	3.0	3	HHEI	41.0	Modified Class 2	Yes	214
Stream 110	39.396065	-84.192625	Tributary to Bee Run	Intermittent	3.5	4	HHEI	42.0	Modified Class 2	Yes	249
Stream 111	39.396545	-84.194642	Tributary to Bee Run	Ephemeral	3.0	2	HHEI	39.0	Modified Class 2	NC	39
Stream 112	39.397369	-84.196339	Bee Run	Perennial	15	24	QHEI	63.5	Good Warmwater	Yes	260
Stream 113	39.398389	-84.199475	Tributary to Bee Run	Perennial	8.0	24	QHEI	58.5	Good Warmwater	Yes	298
Stream 114	39.398695	-84.200014	Tributary to Bee Run	Ephemeral	2.0	2	HHEI	29.0	Modified Class 1	Yes	281
Stream 115	39.399235	-84.202139	Tributary to Bee Run	Ephemeral	1.5	1	HHEI	19.0	Modified Class 1	Yes	336
Stream 116	39.400849	-84.206198	Tributary to Bee Run	Ephemeral	2.0	1	HHEI	19.0	Modified Class 1	Yes	108
Stream 117	39.404093	-84.216596	Tributary to Turtle Creek	Ephemeral	2.0	1	HHEI	20.0	Modified Class 1	Yes	887
Stream 118	39.404914	-84.218133	Tributary to Turtle Creek	Intermittent	1.5	5	HHEI	44.0	Modified Class 2	NC	205
Stream 119	39.406558	-84.224048	Tributary to Turtle Creek	Ephemeral	2.5	2	HHEI	24.0	Modified Class 1	Yes	253

TABLE 4 STREAMS IDENTIFIED WITHIN HILLSBORO-HUTCHINGS 138kV TRANSMISSION LINE REBUILD PROJECT SURVEY CORRIDOR

Stream Report Name	Latitude	Longitude	Waterbody	Flow Regime	Bankfull Width (feet)	Maximum Pool Depth (in)	Form <sup>a</sup>	Score <sup>b</sup>	Class/ Narrative Rating*	Crossed by Centerline	Length (feet) within Project Survey Corridor
Stream 120	39.407123	-84.225838	Tributary to Turtle Creek	Perennial	8	10	HHEI	64.0	Modified Class 2	Yes	243
Stream 121	39.408894	-84.231489	Tributary to Turtle Creek	Intermittent	3	4	HHEI	32.0	Modified Class 2	Yes	737
Stream 122	39.409784	-84.233530	Tributary to Turtle Creek	Intermittent	3.5	6	HHEI	52.0	Modified Class 2	Yes	329
Stream 123	39.409784	-84.233910	Tributary to Turtle Creek	Ephemeral	1.0	1	HHEI	22.0	Modified Class 1	Yes	107
Stream 124	39.409671	-84.234386	Tributary to Turtle Creek	Ephemeral	1.5	1	HHEI	21.0	Modified Class 1	NC	50
Stream 125	39.411912	-84.240099	Turtle Creek	Perennial	30	>36	NA	NA	Warmwater Habitat*	Yes	234
Stream 126	39.413066	-84.246473	Tributary to Turtle Creek	Intermittent	3	3	HHEI	40.0	Modified Class 2	NC	157
Stream 127	39.414053	-84.252154	Tributary to Turtle Creek	Intermittent	2	4	HHEI	29.0	Modified Class 1	NC	216
Stream 128	39.417908	-84.273983	Keever Creek	Intermittent	3.5	14	HHEI	56.0	Modified Class 2	Yes	270
Stream 129	39.419532	-84.280926	Tributary to Keever Creek	Ephemeral	3	1	HHEI	28.0	Modified Class 1	NC	45
Stream 130	39.419132	-84.281366	Tributary to Keever Creek	Intermittent	3	15	HHEI	33.0	Modified Class 2	Yes	390
Stream 131	39.420703	-84.289976	Tributary to Station Creek	Intermittent	3	5	HHEI	39.0	Modified Class 2	Yes	251
Totals: 131	Streams					,					37,745

Form Used<sup>a</sup>: QHEI = Qualitative Habitat Evaluation Index, HHEI = Headwater Habitat Evaluation Index, NA = Not Assessed (default to the State of Ohio's assessment) Scores: NA = Not Assessed (default to the State of Ohio's assessment)

\* = Narrative description is based on Ohio Environmental Protection Agency's ranking. See Ohio Administrative Code 3745-1-07.

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## 3.2.1 Qualitative Habitat Evaluation Index

Seventeen streams within the Project survey corridor were assessed using the QHEI methodology including: one Very Poor Warmwater habitat stream, five Fair Warmwater habitat streams, and 11 Good Warmwater habitat streams. Including the Little Miami River, Second Creek, Turtle Creek and Todd Fork, the 21 perennial streams totaled 5,864 linear feet within the Project survey corridor. The forms for the streams assessed using the QHEI methodology are provided in Appendix C.

Very Poor Warmwater Habitat Streams – Stream 58, totaling 207 linear feet, was classified as a Very Poor Warmwater habitat stream, with a QHEI score of 27. The substrate of this stream was estimated to primarily consist of silt with smaller amounts of detritus and artificial material. The stream showed evidence of heavy to moderate bank erosion, moderate channel sinuosity, poor channel development, and overhanging vegetation and shallows (in slow water) as in-stream cover. The maximum pool depth was eight inches and the average bankfull width was 5.5 feet.

Fair Warmwater Habitat Streams – Five streams, totaling 1,331 linear feet, were classified as Fair Warmwater Habitat streams, with QHEI scores ranging from 47.5 (Stream 18), to 53 (Stream 45). The substrate of these streams primarily consisted of gravel, sand and silts with smaller amounts of cobble, boulder, and artificial material. The streams generally showed evidence of heavy to moderate bank erosion, low channel sinuosity, fair to poor channel development, and overhanging vegetation, undercut banks, root wads, and logs/woody debris as in-stream cover. Maximum pool depth ranged from 12 to 18 inches and the average bankfull width ranged from six to 20 feet.

Good Warmwater Habitat Streams – Eleven streams, totaling 3,219 linear feet, were classified as Good Warmwater Habitat streams, with a QHEI scores ranging from 55 (Stream 31), to 63.5 (Stream 112). The substrate of these streams generally consisted of gravel, sand, cobble and silt with smaller amounts of boulder, bedrock, detritus and artificial material. The streams generally showed evidence of moderate to heavy bank erosion, low channel sinuosity, good to fair channel development, and overhanging vegetation, undercut banks, root wads, pools > 70cm, root mats, and logs/woody debris as in-stream cover. Maximum pool depth ranged from six to 24 inches and the average bankfull width ranged from six to 30 feet.

#### 3.2.2 Primary Headwater Habitat Evaluation Index

One hundred and ten headwater streams, totaling 31,881 linear feet, were identified within the Project survey corridor. These streams included six Class 1 streams, 57 Modified Class 1 streams, seven Class 2 streams, and 40 Modified Class 2 streams. Completed HHEI forms for each stream are provided in Appendix C. Representative color photographs were taken during the field survey and are provided in Appendix D.



Class 1 Headwater Streams – Six Class 1 headwater streams, totaling 1,203 linear feet, with scores ranging from 17.0 to 26.0 were identified during the field investigations. Three intermittent streams and three ephemeral streams were identified. The substrates primarily consisted of silt and leaf pack/woody debris with lesser amounts of gravel and cobble. The maximum pool depth for the streams ranged from zero to two inches, and average bankfull widths ranged from one to two feet.

Modified Class 1 Headwater Streams – Fifty-seven Modified Class 1 headwater streams, totaling 15,782 linear feet, with scores ranging from 15.0 to 30.0 were identified during the field investigations. Fifteen intermittent streams and 42 ephemeral streams were identified. The substrates primarily consisted of silt and leaf pack/woody debris with lesser amounts of sand, cobble, gravel, clay/hardpan, and artificial substrates. The streams showed evidence of stream channel modification (e.g., channelization, culverting, etc.) that resulted in the stream receiving a Modified Class 1 designation. The maximum pool depth for the streams ranged from zero to four inches, and average bankfull widths ranged from 0.5 to three feet.

Class 2 Headwater Streams – Seven Class 2 headwater streams totaling 1,226 linear feet, with scores ranging from 31.0 to 67.0 were identified during the field investigations. Six intermittent streams and one ephemeral stream were identified. The substrates of these streams primarily consisted of silt and gravel with lesser amounts of sand, cobble, and leafy debris. The maximum pool depths ranged from one to sixteen inches, and average bankfull widths ranged from three to nine feet.

Modified Class 2 Headwater Streams – Forty Modified Class 2 headwater streams totaling 13,669 linear feet, with scores ranging from 30.0 to 69.0 were identified during the field investigations. Five perennial streams, 31 intermittent streams, and four ephemeral streams were identified. The substrates of these streams primarily consisted of silt and gravel with lesser amounts of sand, cobble, clay/hardpan, and leafy debris. The streams showed evidence of stream channel modification (e.g., channelization, culverting, etc.) that resulted in the streams receiving a Modified Class 2 designation. The maximum pool depths ranged from zero to fifteen inches, and average bankfull widths ranged from one to 8.5 feet.

### 3.3 PONDS

Thirty-one ponds, totaling 12.95 acres, were observed within the Project survey corridor. These ponds appear to be man-made for stormwater retention or recreational use. The locations of ponds are shown on Figures 3A to 3BBBB.

## 3.4 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY CORRIDOR

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys December 2017. Portions of the Project survey corridor were identified as agricultural land, old field, scrub-shrub, woodland forests, pasture/hay fields, residential landscaped areas, stream/wetland



areas, and urban areas. A variety of vegetative communities, as described below in Table 5, are present within the Project survey corridor. Vegetated land cover can be seen visually from aerial photography provided on Figures 4A through 4KK.

TABLE 5
VEGETATIVE COMMUNITIES WITHIN THE PROJECT AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Corridor	Approximate Percentage within the Project Survey Corridor
Agricultural Land	Agricultural land consisting of soybean, corn fields, and winter wheat were present along the Project survey corridor. The agricultural land contains row crops and is not used for pasture or hay fields.	467.62	52%
Landscaped Areas	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey corridor and adjacent areas are vegetated with frequently mowed grasses and forbs.	77.89	9%
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey corridor of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the study corridors and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	103.81	11%
Pasture/Hay Fields	Pasture for cattle and hay fields were observed in various portions of the study area. Pasture areas within the study corridors and adjacent areas are frequently mowed and grazed areas of grasses and forbs.	78.99	9%
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old- field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the removed canopy. Dominant species consists of herbaceous communities similar to that of old field habitat with a few woody species, to a community dominated by forest herbs and woody species.	94.06	10%
Streams/Wetlands	Streams, wetlands and ponds were observed both within and beyond the Project survey corridor.	44.38	5%
Successional Hardwood Woodlands	Oak-Hickory and successional mixed hardwood woodlands are present along the Project survey corridor. Woody species dominating these areas included white oak ( <i>Quercus alba</i> ), swamp white oak ( <i>Quercus bicolor</i> ), pin oak ( <i>Quercus palustris</i> ), box elder ( <i>Acer negundo</i> ), American elm ( <i>Ulmus americana</i> ), shagbark hickory ( <i>Carya ovata</i> ), black walnut ( <i>Juglans nigra</i> ), red maple ( <i>Acer rubrum</i> ), and silver maple ( <i>Acer saccharinum</i> ). The dominant shrub-layer species included honeysuckle ( <i>Lonicera maackii</i> ), and blackberry ( <i>Rubus occidentalis</i> ).	17.29	2%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, railroads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	23.83	2%
Totals:		907.87	100%

# 3.5 RARE, THREATENED AND ENDANGERED SPECIES

Protected Species Agency Consultation -



AECOM conducted a rare, threatened, and endangered species review for areas crossed by the Project survey corridor. A summary of agency coordination responses is provided below. Correspondence letters from the USFWS and ODNR are included as Appendix E. Table 6 provides a list of species identified as occurring near, or possibly within the Project area during the rare, threatened, and endangered species review.



TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Mammals						
Indiana bat ( <i>Myotis sodalis</i> )	Endangered	Endangered	Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (Carya spp.), oak (Quercus spp.), ash (Fraxinus spp.), birch (Betula spp.), and elm (Ulmus spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.	Yes	Potentially suitable habitat is present within the Project area (woodlands)	USFWS commented that the project is in the vicinity of multiple records of Indiana bat. If trees ≥3 inches dbh cannot be avoided, they recommend that removal only occur between October 1 and March 31. If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. In areas where presence is already confirmed, additional netting will not result in probable absence determination. No winter caves or abandoned mines were identified within the Project corridor.



TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Northern long-eared bat (Myotis septentrionalis)	Threatened	Threatened	Winter hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (Carya spp.), oak (Quercus spp.), ash (Fraxinus spp.), hirch (Betula spp.), and elm (Ulmus spp.), have been found to be utilized by northern long-eared bats. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy, is important to allow maneuvering while catching insect prey. Northern long-eared bats have also been found, albeit rarely, roosting in structures like barns and sheds.	Yes	Potentially suitable habitat is present within the Project area (woodlands)	USFWS recommend that removal of any trees 23 inches dbh only occur between October 1 and March 31. If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of northern long-eared bats within the project area during the summer. No winter caves or abandoned mines were identified within the Project corridor.
Mussels	·					
Black sandshell ( <i>Ligumia recta</i> )	Threatened	None	This mussel species prefers gravel and sand in medium to large streams, and lakes	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species



TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Club shell ( <i>Pleurobema clava</i> )	Endangered	Endangered	This mussel species prefers clean, loose sand and gravel in medium to small rivers.	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species
Fawnsfoot ( <i>Truncilla</i> donaciformis)	Threatened	None	This mussel species prefers firm gravel or sand substrates in small to large rivers.	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species
Rayed bean (Villosa fabalis)	Endangered	Endangered	This mussel species prefers gravel or sand substrates and is often found in and around roots of aquatic vegetation in smaller, headwater creeks.	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	USFWS stated that if habitat was to be impacted then a survey would be recommended.  ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species
Snuffbox (Epioblasma triquetra)	Endangered	Endangered	This mussel species prefers sand, gravel or cobble substrates in small to medium sized creeks.	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species
Threehorn wartyback (Obliquaria reflexa)	Threatened	None	This mussel species prefers gravel, sand, and mud in large rivers	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species



TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

			CAND GOT WO LIGHED OF LOILO WITH			
Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Washboard (Megalonaias nervosa)	Endangered	None	This mussel species prefers sand, gravel or mud in larger streams.	Yes	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated	ODNR stated that due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these species
Reptiles						
Spotted Turtle (Clemmys guttata)	Threatened	None	This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches	Yes	Potentially suitable habitat is present within the Project area (pond edges, small streams and ditches). No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated.	ODNR stated that due to the project location, the type of work proposed, and the type of habitat along the project route and within the vicinity of the project area, this project is not likely to impact this species
Eastern massasauga (Sistrurus catenatus)	Endangered	Threatened	The eastern massasauga uses both upland and wetland habitat depending on the season. This snake hibernates in low wet areas and primarily in crayfish burrows but may use other structures where the water table is near the surface for a hibernaculum. Summer habitat includes drier, open areas that contain a mix of grasses and prairie plants and may be intermixed with trees or shrubs. Adjoining lowland and upland habitat with variable elevations are important for interseasonal movements.	Yes	Potentially suitable habitat is present within the Project area (wetlands). No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated.	USFWS recommended habitat assessment if habitat types or features occur within the Project corridor.  ODNR stated that due to the project location, the type of work proposed, and the type of habitat along the project route and within the vicinity of the project area, this project is not likely to impact this species



TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Kirtland's snake (Clonophis kirtlandii)	Threatened	None	The Kirtland's snake uses a range of habitats, including prairie fens, wet meadows, lake plain wet prairies and associated open and wooded wetlands, seasonal marshes, open swamps, sparsely wooded hillsides and the vicinity of ponds and sluggish creeks.	Yes	Potentially suitable habitat is present within the Project area (ponds, creeks). No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated.	ODNR stated that due to the project location, the type of work proposed, and the type of habitat along the project route and within the vicinity of the project area, this project is not likely to impact this species
Crustacean						
Sloans's crayfish (Orconectes sloanii)	Threatened	None	This species prefers clean, rocky-bottomed streams in small to medium sized streams.	Yes	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW recommends that any instream portions of the project be conducted during base or slightly above flow to allow the crayfish to relocate out of the area. If below base flow periods have created pools potentially confining the crayfish, it is recommended that any pools proposed to be impacted be cleared using a sweep seine technique. Any captured crayfish should be relocated upstream and outside of the project area.
Fish						
American eel (Anguilla rostrata)	Threatened	None	This species may be found at times in any stream in Ohio and in Lake Erie. They appear most often in moderate or large rivers with continuous flow and moderately clear water. While in fresh water, eels are secretive and hid in deep pools around cover, sometimes burying themselves during the day and coming out to feed at night	Yes	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW 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, the project is not likely to impact this species

TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Bigeye shiner (Notropis boops)	Threatened	Non	This species may be found in pools of small, very clear streams with sand or gravel substrate.	No	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW 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, the project is not likely to impact this species
Goldeye (Hioden alosides)	Endangered	None	This species may be found in large rivers and are rather tolerant of turbid waters from clay and silts. They appear in areas with swift currents, often below dams.	No	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW 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, the project is not likely to impact this species
Mountain brook lamprey (Ichthyomyzon greeleyi)	Endangered	None	This species may be found in clear brooks with fast flowing water with sand or gravel bottoms.	No	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW 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, the project is not likely to impact this species
Northern brook lamprey (Ichthyomyzon fossor)	Endangered	None	This species may be found in clear brooks with fast flowing water with sand or gravel bottoms.	No	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW 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, the project is not likely to impact this species
Paddlefish (Polyodon spathula)	Threatened	None	This species may be found in sluggish pools and backwater areas of the rivers within the Ohio River and its tributaries.	Yes	No in-water work is planned as part of the Project. No impacts to this species and its habitat are anticipated	The DOW 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, the project is not likely to impact this species
Birds						



TABLE 6
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Corridor	Impact Assessment	Agency Comments
Northern harrier (Circus cyaneus)	Endangered	None	This is a common migrant and winter species.  Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds nests out of sticks on the ground, often on top of a mound. This species hunts over grasslands	Yes	Limited suitable habitat is present within the Project area or adjacent (old field, pasture, emergent wetland habitats).	The DOW recommends if suitable habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.
Upland sandpiper (Bartramia Iongicauda)	Endangered	None	Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP)	Yes	Limited suitable habitat is present within the Project area or adjacent (old field, pasture, emergent wetland habitats).	The DOW recommends if suitable habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to July 31. If this habitat will not be impacted, this project is not likely to impact this species.
Plants						
Running buffalo clover ( <i>Trifolium</i> stoloniferum)	Endangered	Endangered	Running buffalo clover occurs in woodlands with an open understory with filtered sunlight and periodic disturbance. This species may be found in partially shaded woodlots, mowed areas, and along streams and trails.	Yes	Potentially suitable habitat is present within the Project area (filtered sunlight and limited disturbance).	In the January 9, 2018 technical assistance letter, USFWS recommends completing the work between August 1 to March 30, after the perennial plant has died back for the season and foliage will not be damaged or destroyed. If the work is to be completed outside of that time window, the USFWS requests a survey to be completed in sections of the line running through Salem and Washington Township in Warren County.  In a phone discussion with USFWS on May 14. 2018, AECOM discussed the Project area in greater detail with USFWS. After the discussion of the habitat within the ROW, USFWS indicated that the project would not impact this species.



## **ODNR Coordination –**

Coordination with the ODNR was initiated during the planning stages of the Project to obtain records of protected species located in the vicinity of the project. In a letter dated October 17, 2017, the ODNR Office of Real Estate Environmental Review Section provided comments on the Project based on an inter-disciplinary review. The Ohio Natural Heritage Database (ONHD), Division of Wildlife (DOW), and the Division of Water Resources provided comments regarding their respective regulatory authorities.

The ONHD lists the following as being recorded at or within a one-mile radius of the project area: screw-stem, running buffalo clover, beech sugar maple forest plant community, oak maple forest plant community, elktoe, fawnsfoot, Indiana bat, upland sandpiper, loggerhead shrike, mussel bed, Little Miami State Scenic River, Halls Creek Woods State Nature Preserve, Halls Creek State canoe access, Little Miami River State Park, and Oldaker Wildlife Area. ODNR recommended that impact to wetlands, streams or other water resources be avoided or minimized and that erosion and sediment controls be utilized. ODNR DOW further stated that the portion of the Project from Mullen Hill Road in Clinton County to the eastern terminus of the Project is within the vicinity of records for the Indiana bat and that any additional summer surveys would not constitute presence or probable absence in the area. The DOW further recommends tree cutting to occur between October 1st and March 31st to avoid direct impacts to the species.

The DOW indicated that this Project is within the range of two state-endangered bird species: the northern harrier and upland sandpiper. ODNR does indicate that construction should be avoided during the northern harrier's nesting period between May 15 to August 1 to avoid impacts to marshes and grasslands. ODNR also indicates that construction should be avoided during the upland sandpiper's nesting period between April 15 to July 31 to avoid impacts to grasslands, pasture and hayfield habitats. Potential nesting locations for this species can be seen on Figures 4A through 4KK.

ODNR noted that the Project is within the range of seven state-listed mussel species (club shell, rayed bean, snuffbox, washboard, treethorn wartyback, black sandshell, and fawnsfoot) and six state-listed fish species (brook lamprey, goldeye, mountain brook lamprey, bigeye shiner, American eel, and paddlefish). ODNR recommends no in-water work in perennial streams at least between April 15 to June 30 to reduce impacts to aquatic species and their habitat. However, if no in-water work proposed in a perennial stream, this Project is not likely to impact these species.

ODNR also indicated that the Project is within the range of one state-threatened turtle species: the spotted turtle. The Project is also within the range of the eastern massasauga, a state-endangered snake species, and Kirtland's snake, a state threatened species. ODNR commented that due to the Project location, the type of work proposed, and the type of habitat along the Project route and within the vicinity



of the Project area, this Project is not likely to impact the spotted turtle, eastern massasauga, or the Kirtland's snake.

ODNR stated that the Project is within the range of the state-endangered Sloan's crayfish. The ODNR recommends that if any in-stream portions of the project be conducted during base or slightly above flow to allow the crayfish to relocate out of the area. If below base flow periods have created pools potentially confining the crayfish, it is recommended that any pools proposed to be impacted be cleared using a sweep seine technique. Any captured Sloan's crayfish should be relocated upstream and outside of the project area. However, because no in-water work is proposed in streams, this Project is not likely to impact this species.

### **USFWS Coordination –**

In a letter dated January 9, 2018, the USFWS provided comments on the Project with regard to federally listed threatened and endangered species that may occur within the project vicinity. The USFWS indicated that there are no Federal wildlife refuges, wilderness areas, or critical habitat within the vicinity of the Project.

The USFWS noted that the Project lies within the range of the federally endangered Indiana bat, and the federally threatened northern long-eared bat. USFWS recommends that if the proposed site contains trees ≥3 inches dbh, those trees should be saved wherever possible. If tree clearing cannot be avoided, USFWS recommends that tree removal occur between October 1 and March 31 avoid adverse effects to Indiana bats and northern long-eared bats during the summer maternity and fall migration period.

The USFWS noted that the project lies in the range of the federally threatened eastern massasauga. USFWS stated that eastern massasaugas use both upland and wetland habitat and these habitats differ by season. Adjoining lowland and upland habitat with variable elevations between are important for interseasonal movements. USFWS recommended a habitat assessment if habitat types or features occur within the Project corridor.

USFWS also noted that the Project is located within the range of the federally endangered rayed bean. USFWS recommends that if the project will directly or indirectly impact the rayed bean habitat, then a survey be conducted to determine the presence or probable absence of rayed bean mussels in the vicinity of the project. Due to the Project having no in-stream work, this project is not likely to impact this species.

The Project is located within the range of the federally endangered running buffalo clover. In the January 9, 2018 technical assistance letter, USFWS recommends completing the work between August 1 to March 30, after the perennial plant has died back for the season and foliage will not be damaged or



destroyed. If the work is to be completed outside of that time window, the USFWS requests a survey to be completed in sections of the line running through Salem and Washington Township in Warren County. In a phone call with USFWS on May 14. 2018, AECOM discussed the Project in greater detail with Ms. Jennifer Finfera with USFWS. After the detailed discussion of the habitat present within the ROW, Ms. Finfera indicated that based on the discussion, that she did not believe the project would not impact this species. A copy of the memorandum documenting the phone call is provided in Appendix E.

### 4.0 SUMMARY

The ecological survey of the Project survey corridor identified a total of 33 wetlands, 131 streams, and 31 ponds. The 33 wetlands within the Project survey corridor are of two different wetland habitat types: 32 PEM wetlands, and one PFO wetland. All 31 wetlands were identified as Category 1 and Category 2 wetlands. No Category 3 wetlands were identified within the Project survey corridor.

The 131 streams identified within the Project survey corridor include 50 ephemeral streams, 55 intermittent streams, and 26 perennial streams. One hundred and ten streams were assessed using the HHEI methodology (drainage area less than 1 mi²) and 17 streams were assessed using the QHEI methodology (drainage area greater than 1 mi²). Four streams (Little Miami River, Second Creek, Turtle Creek and Todd Fork) were not assessed since they are larger waterbodies and have an OEPA aquatic use designation.

With regard to state and/or federally listed threatened and endangered species that may occur within the Project vicinity, 22 state listed species were listed by the ODNR or USFWS Based on agency responses and/or no proposed in-water work, the Project is not likely to impact the club shell, rayed bean, snuffbox, washboard, threethorn wartyback, black sandshell, fawnsfoot, brook lamprey, goldeye, mountain brook lamprey, bigeye shiner, American eel, paddlefish, spotted turtle, Kirtland's snake and Sloan's crayfish. ODNR states that construction should be avoided during the upland sandpiper's and northern harrier's nesting period between April 15 to August 1 to avoid impacts to marshes, grasslands, pasture and hayfield habitats.

The USFWS and ODNR noted that the project lies in the range of the eastern massasauga. ODNR commented that due to the location, the type of habitat present along the project route and within the vicinity of the project area, this project is not likely to impact this species. USFWS recommended a habitat assessment if habitat types or features occur within the Project corridor.

The agencies noted that the project lies in the range of running buffalo clover. In a phone call with USFWS on May 14. 2018, AECOM discussed the Project in greater detail with Ms. Jennifer Finfera with USFWS. After the discussion of the habitat present within the ROW, USFWS indicated that based on the discussion, that she did not believe the Project would not impact this species.



Based on general observations during the ecology survey, a small portion of the Project survey corridor contained potential summer roosting habitat for the Indiana bat and the northern long-eared bat. USFWS recommends that should the proposed site contain trees ≥3 inches dbh, that trees be saved wherever possible. If tree clearing cannot be avoided, they recommend that tree removal occur between October 1st and March 31st to avoid adverse effects to Indiana bats and northern long-eared bats.

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

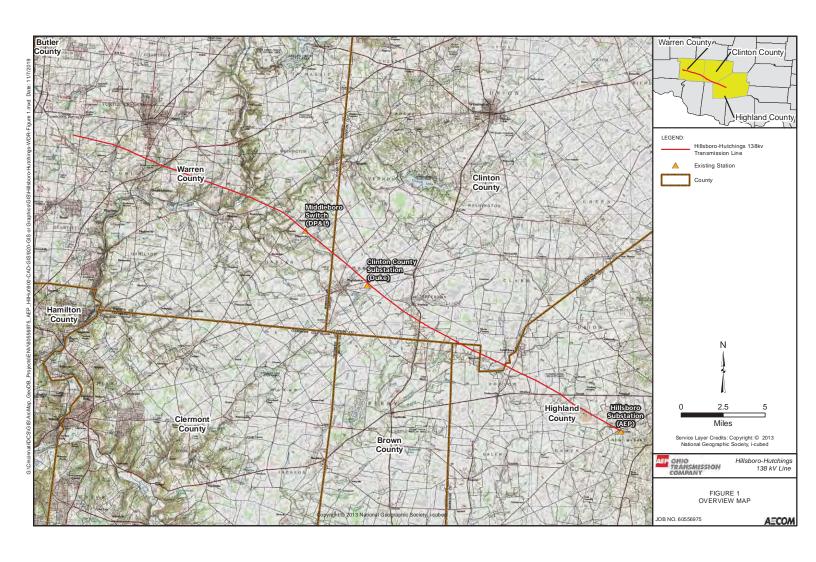
The information contained in this wetland delineation report is for a study corridor that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications.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

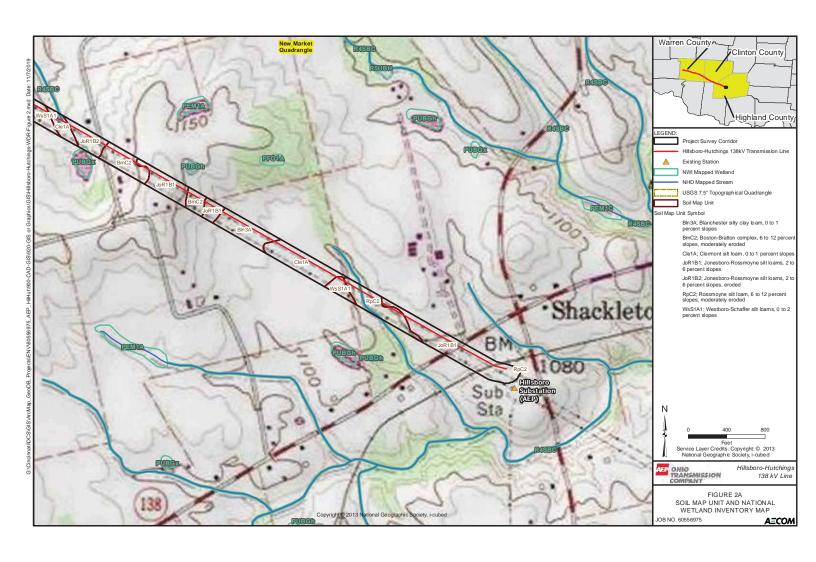
The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due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

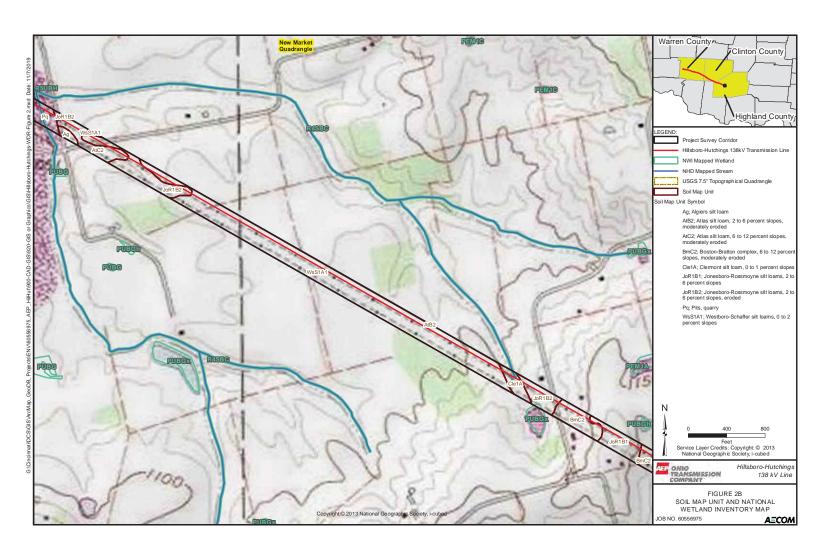


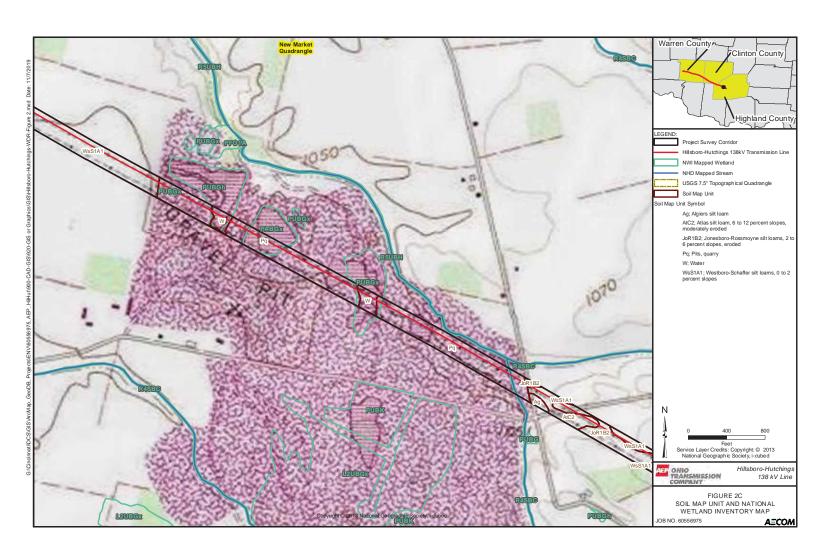
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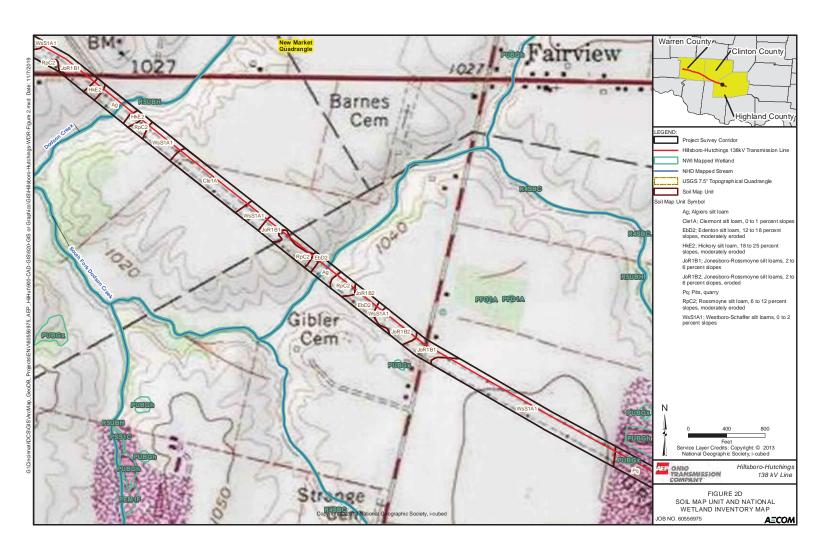
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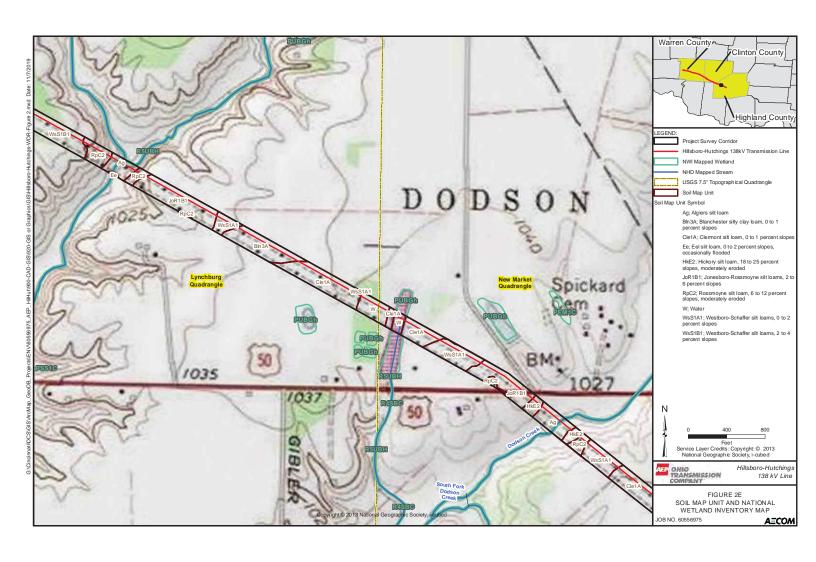


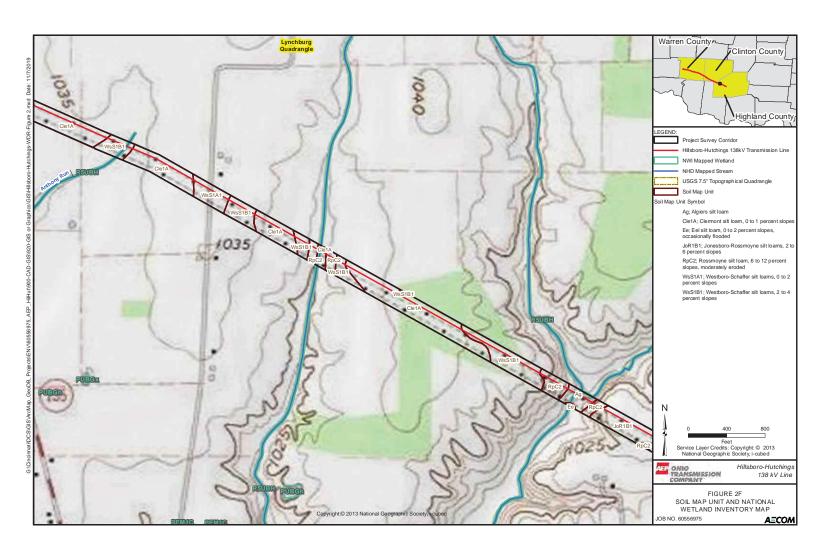


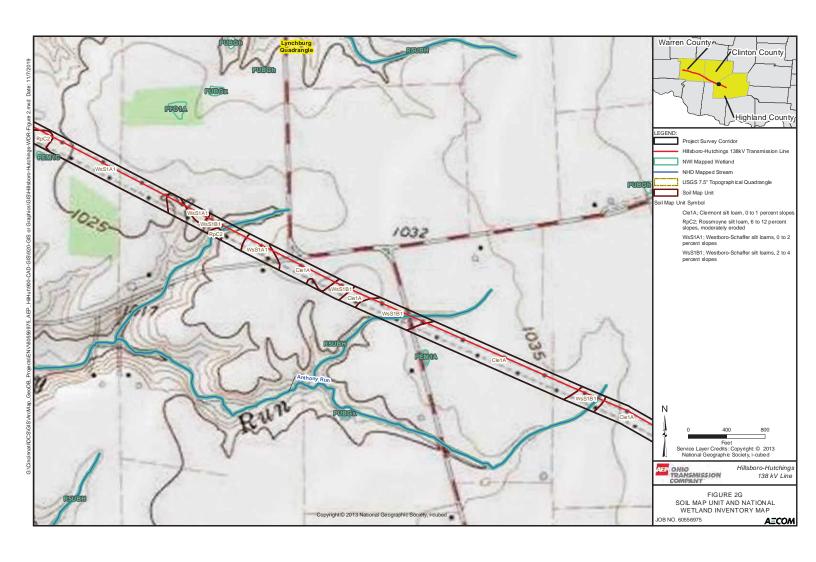


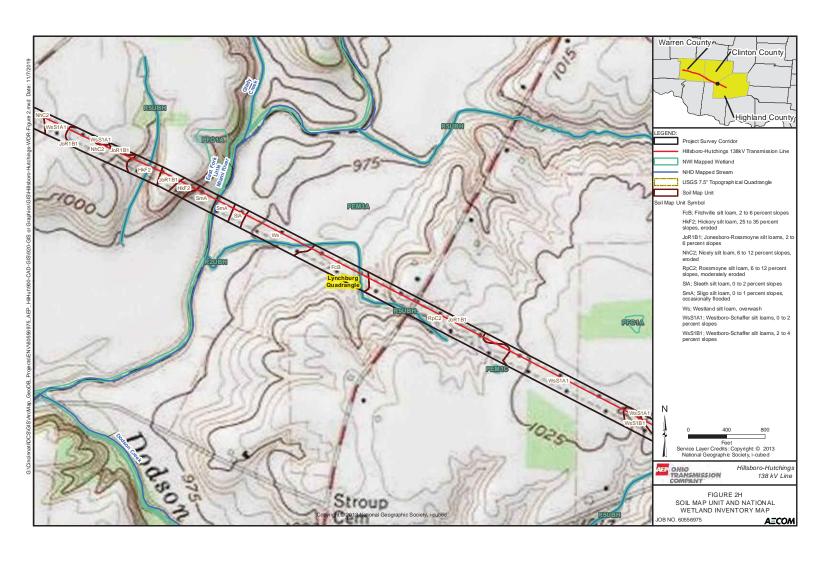


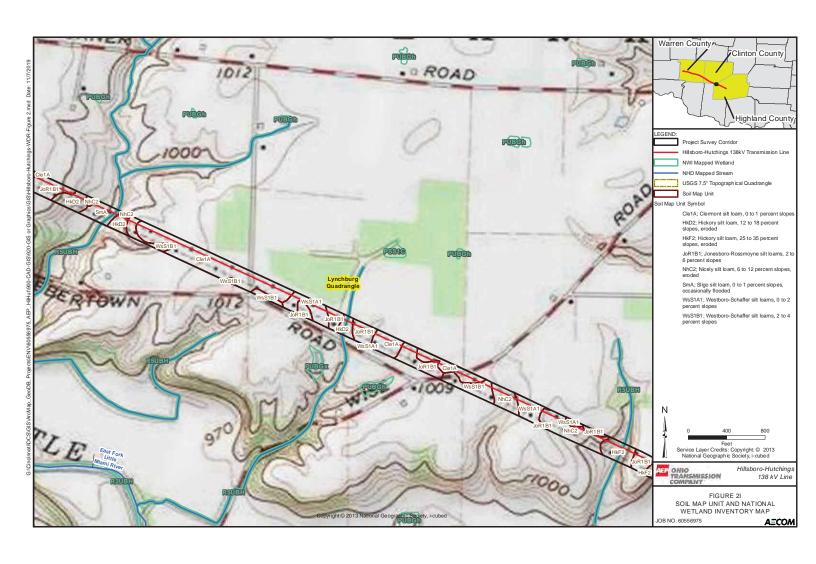


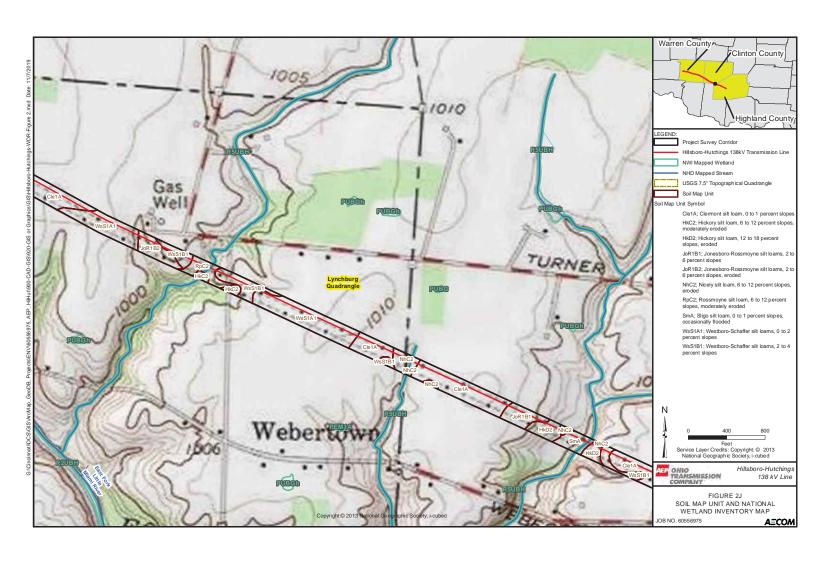


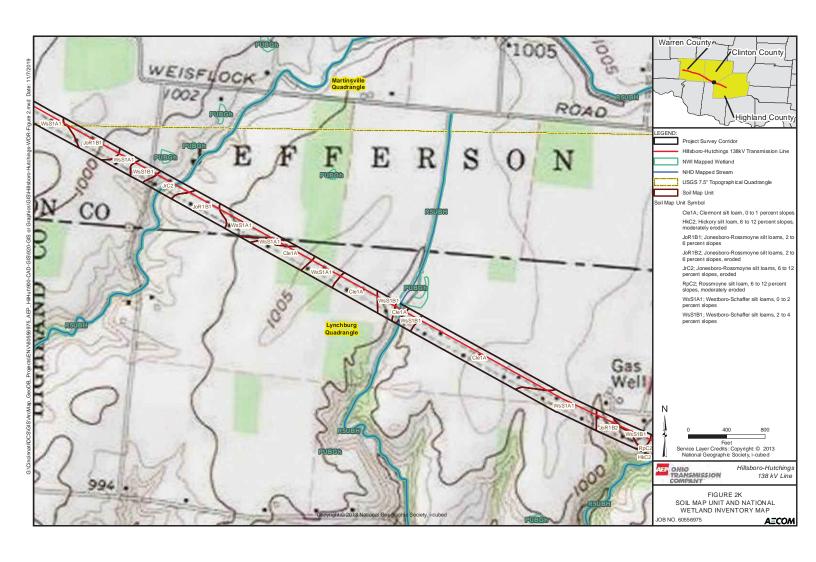




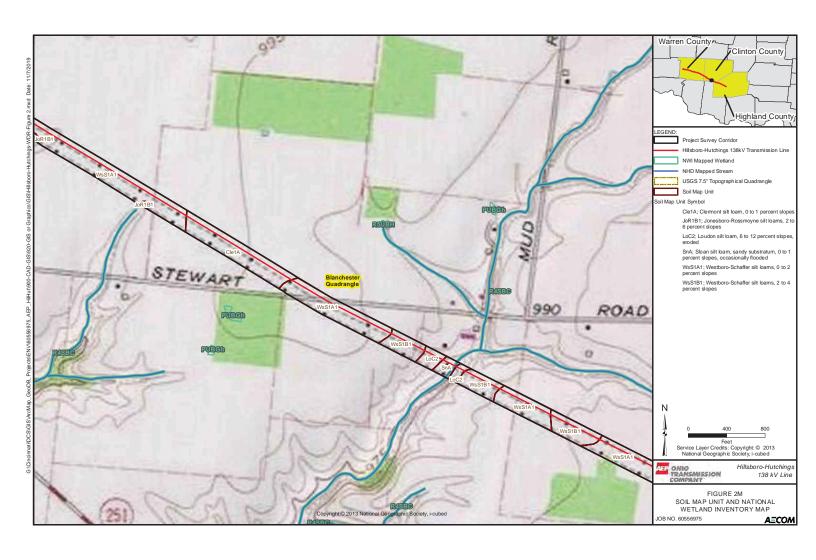


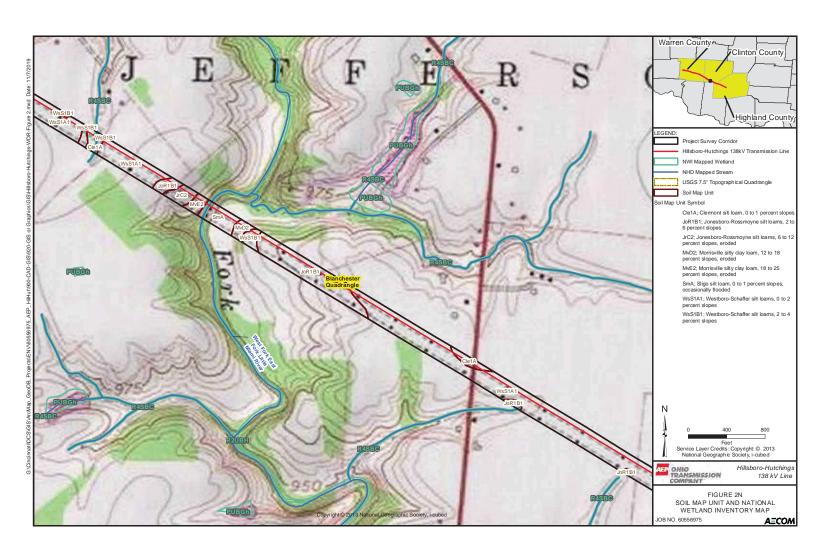


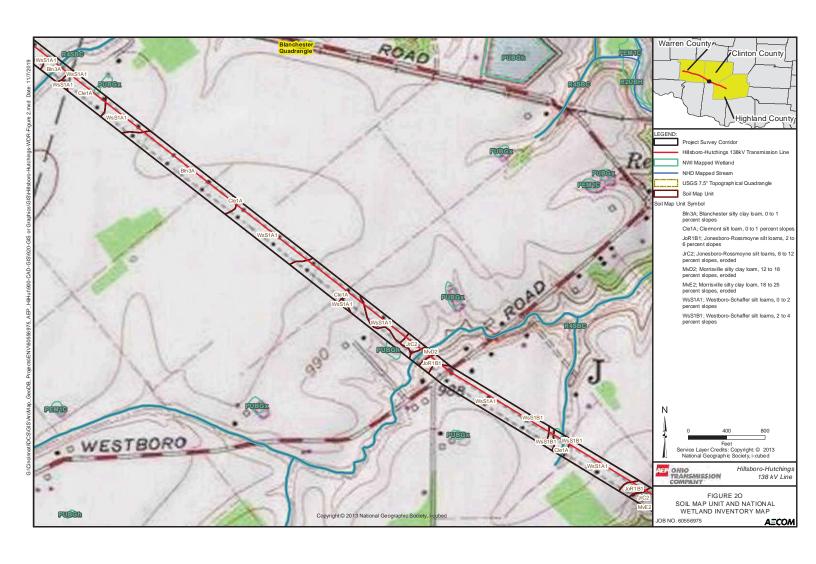


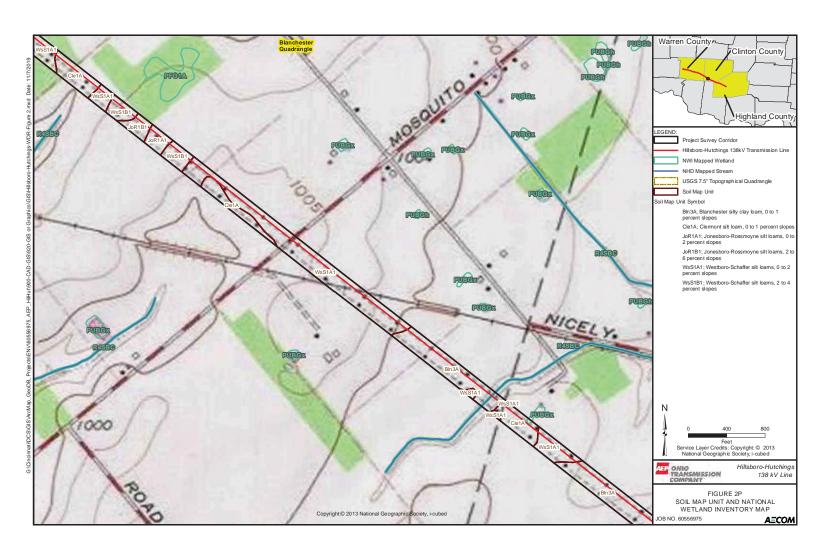


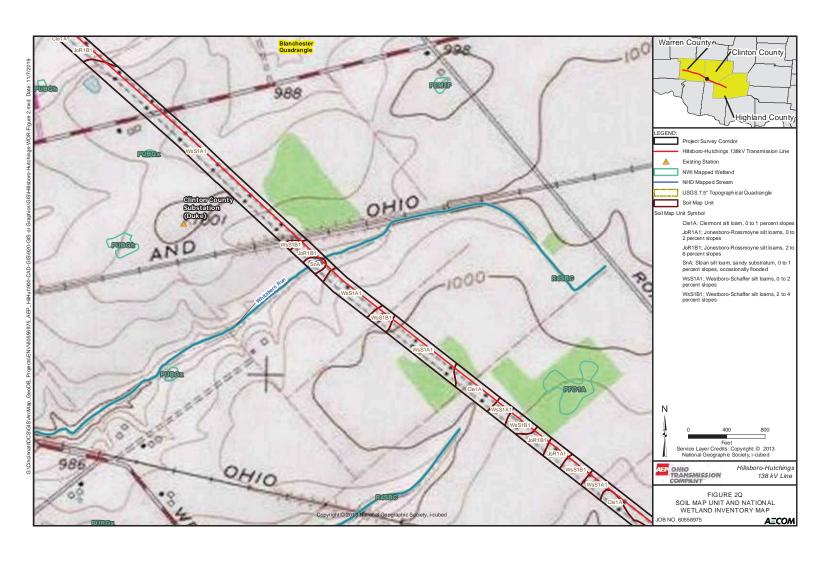


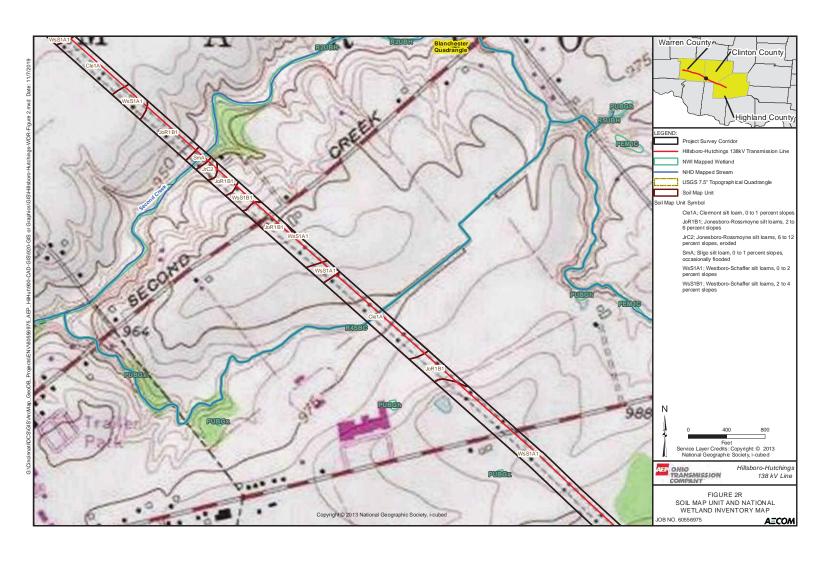


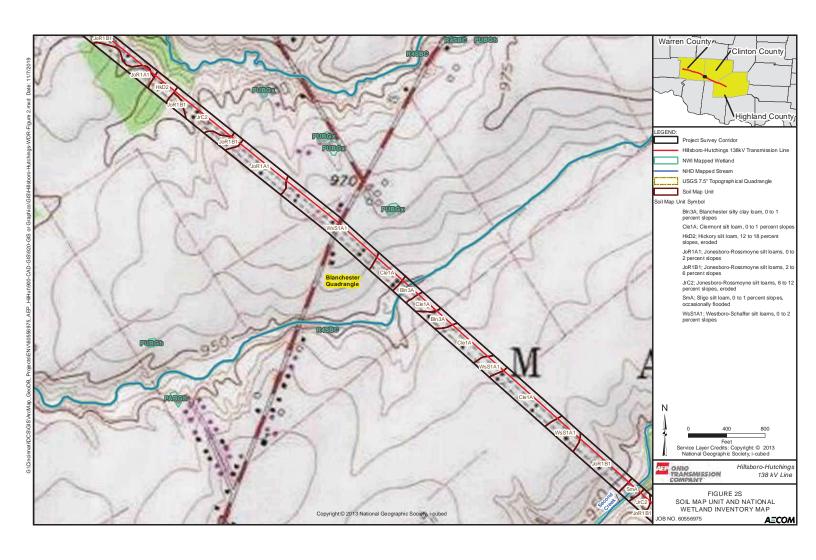


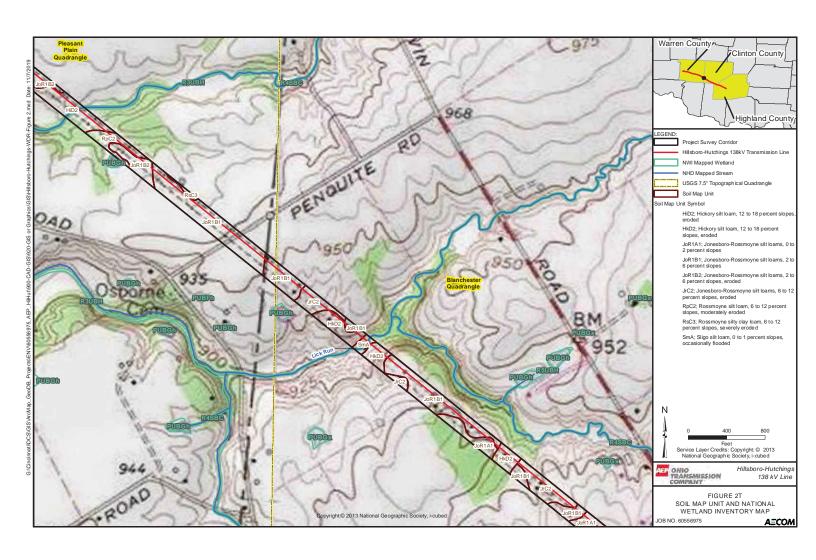


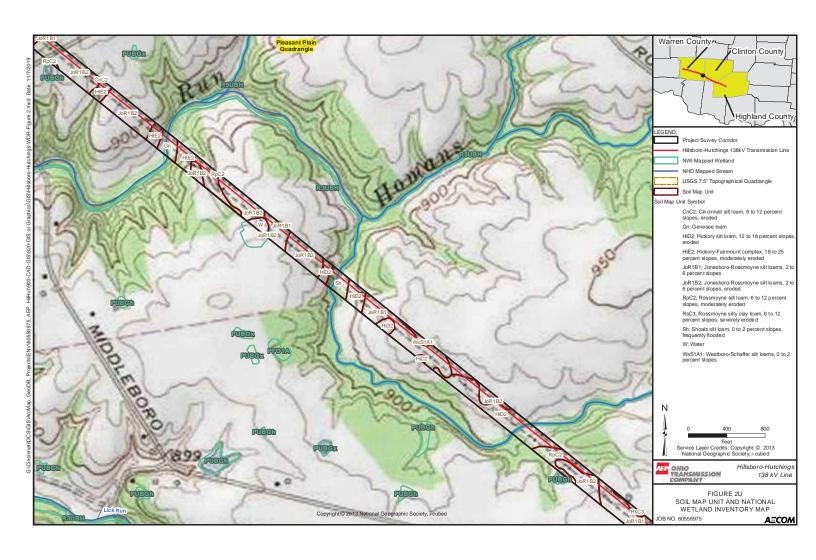


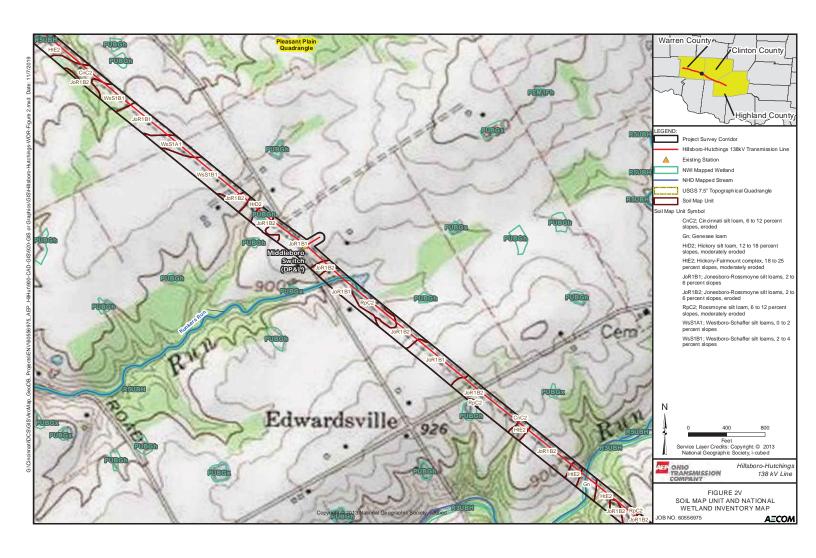


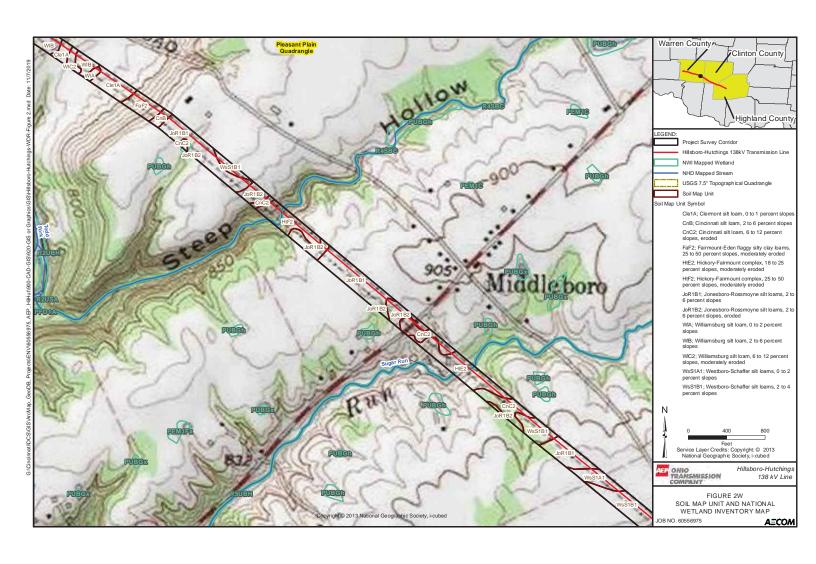


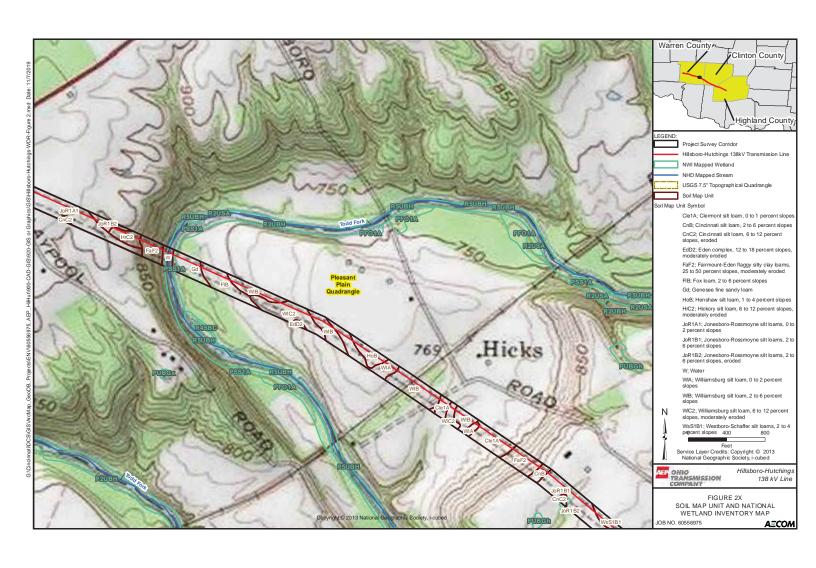


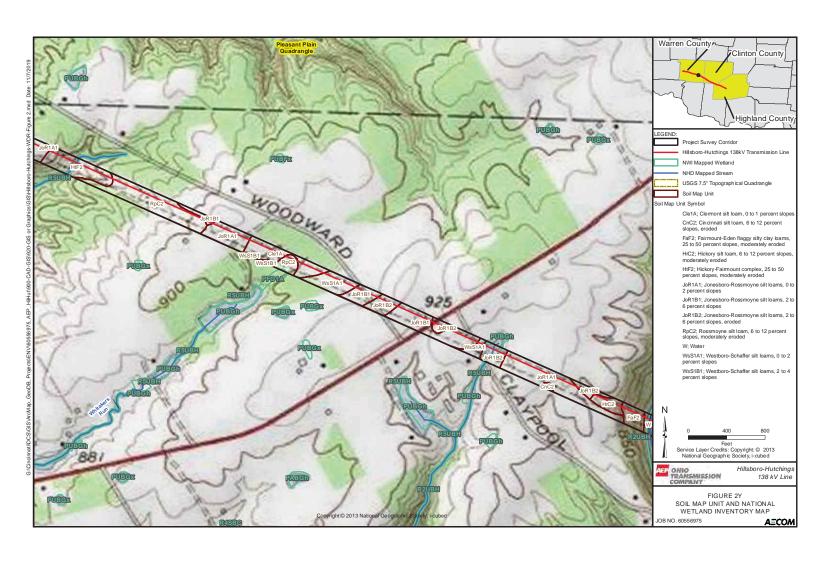


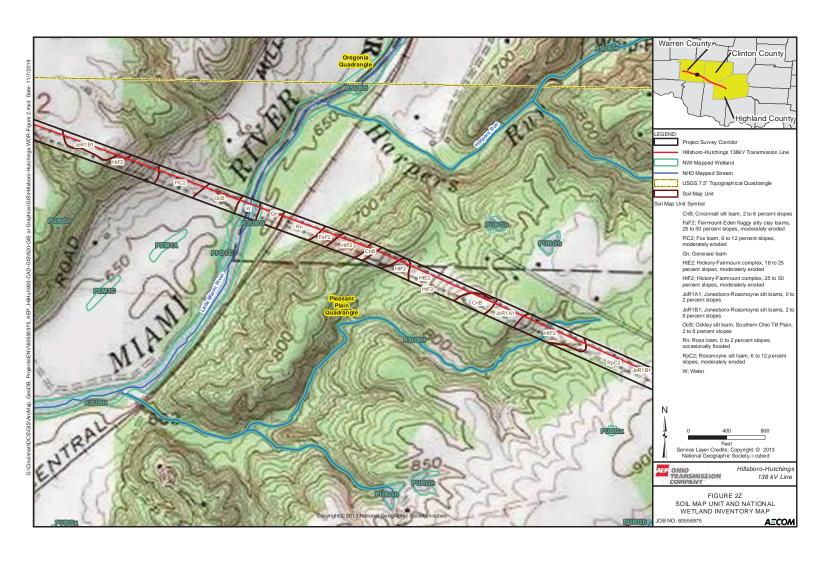


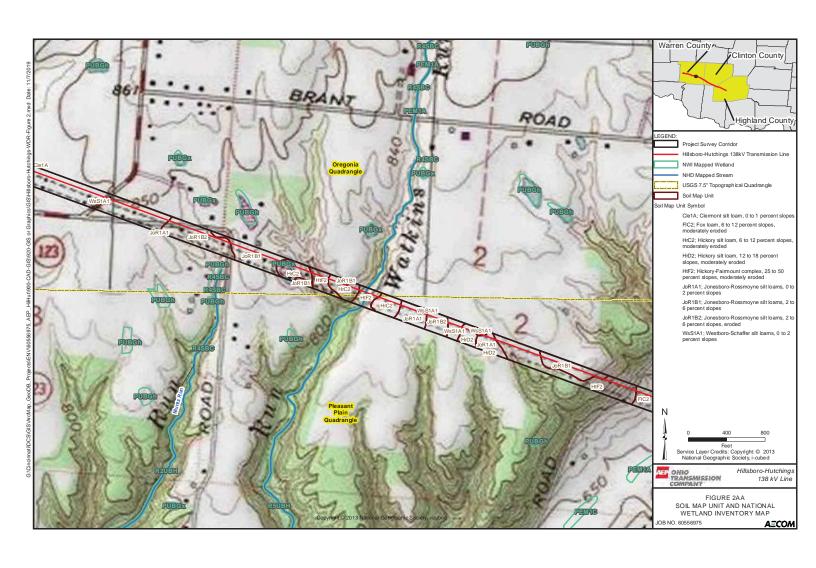


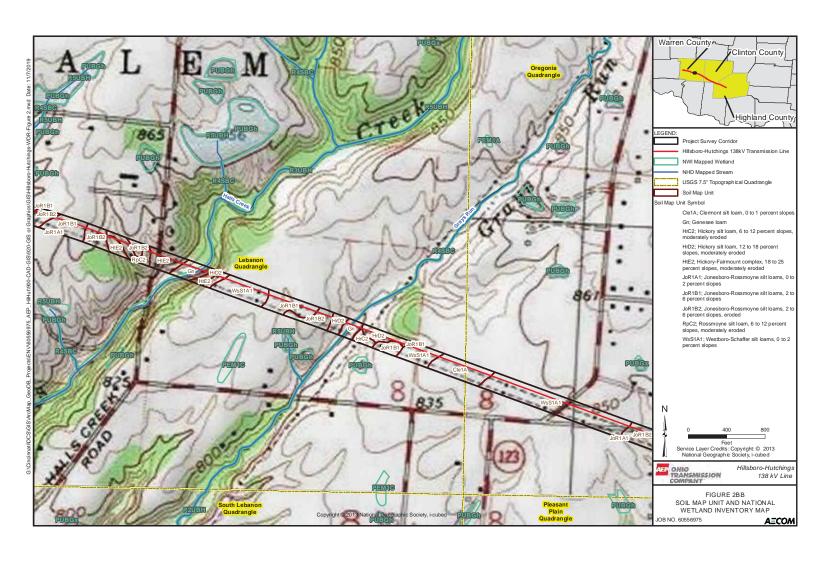


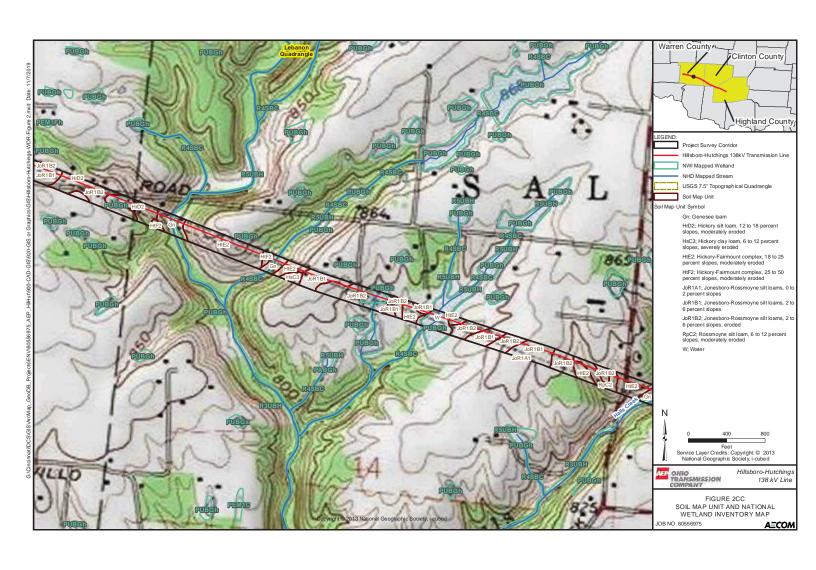


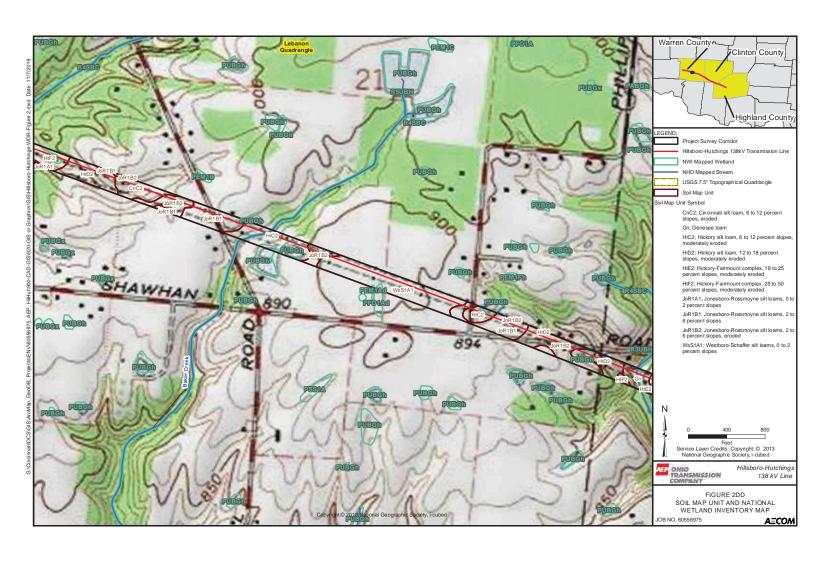


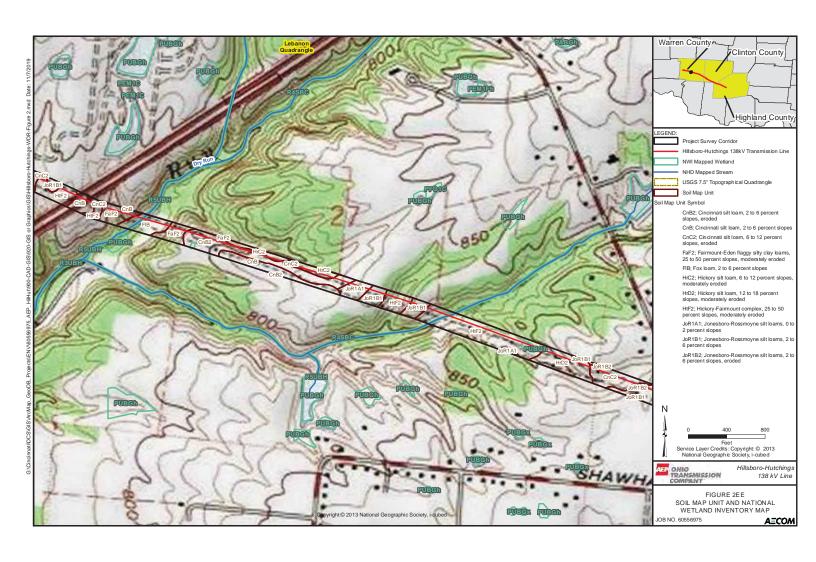


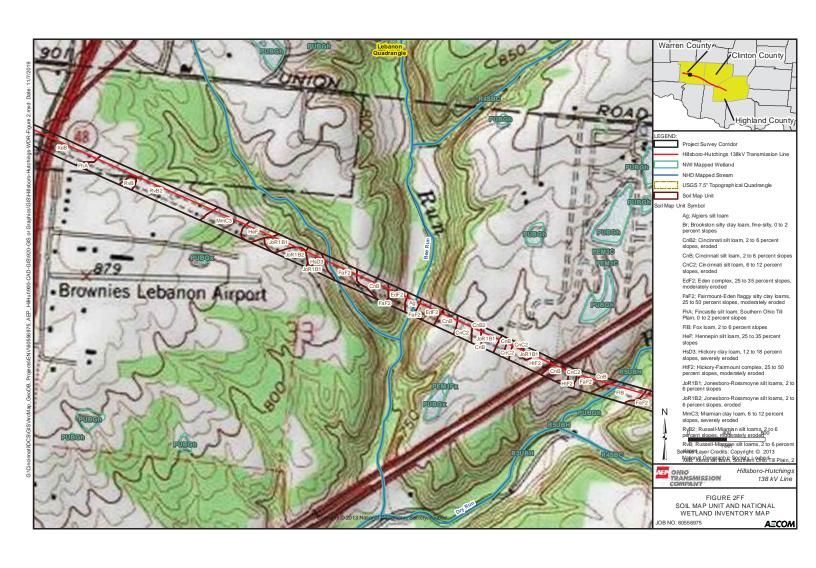


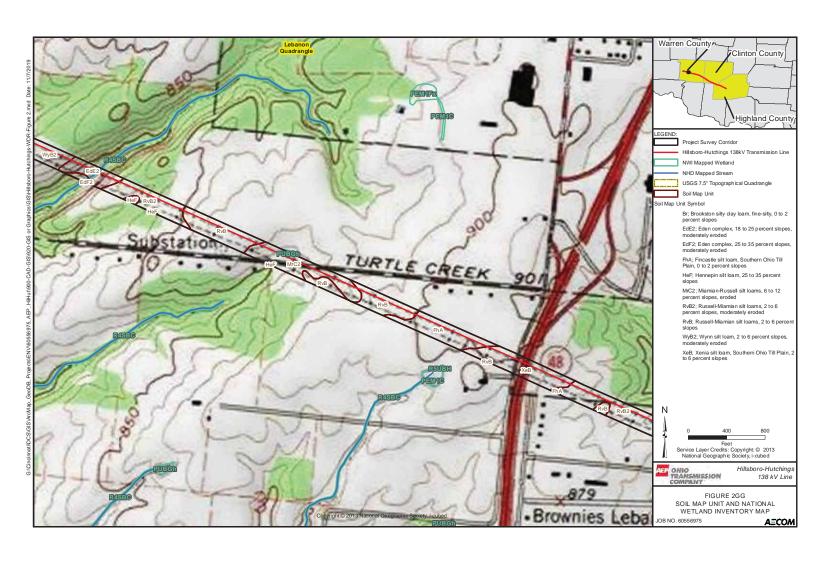


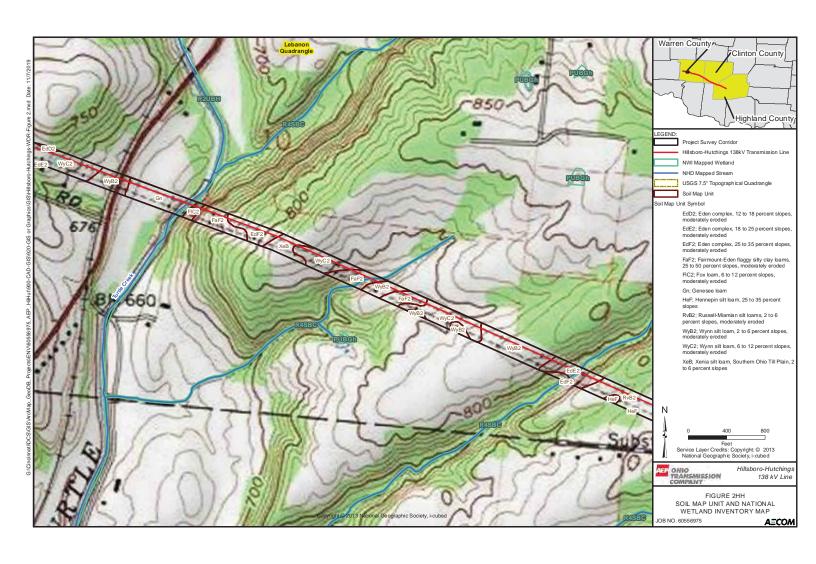


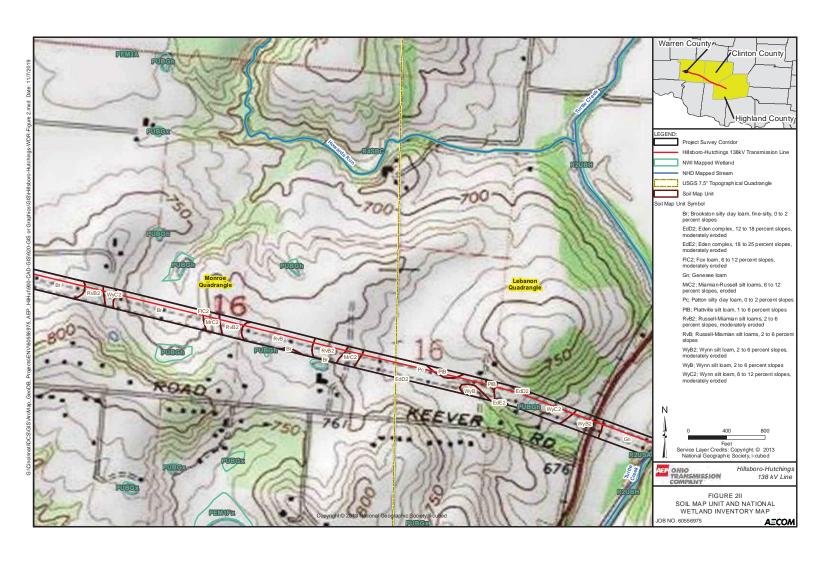


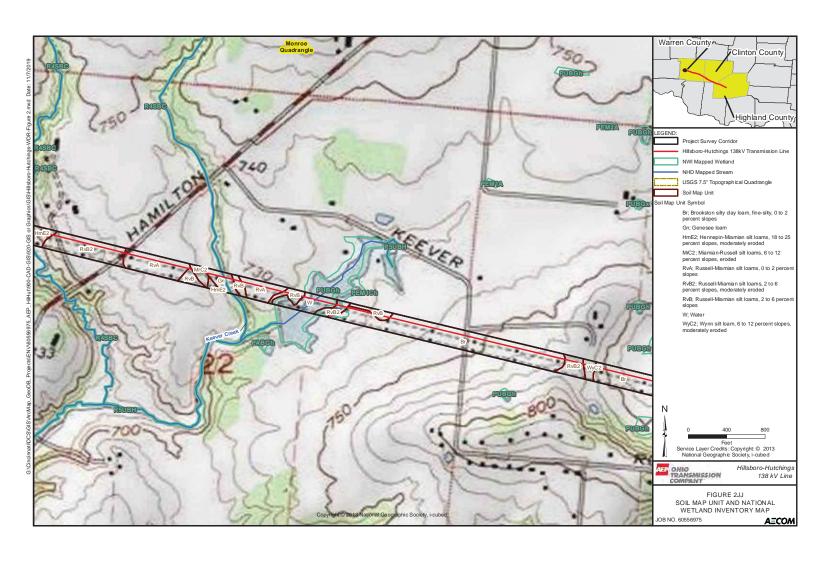


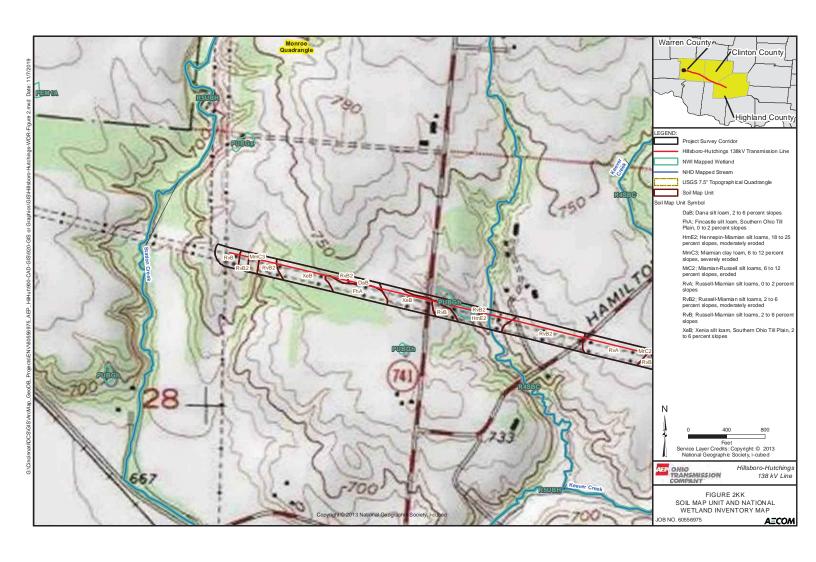


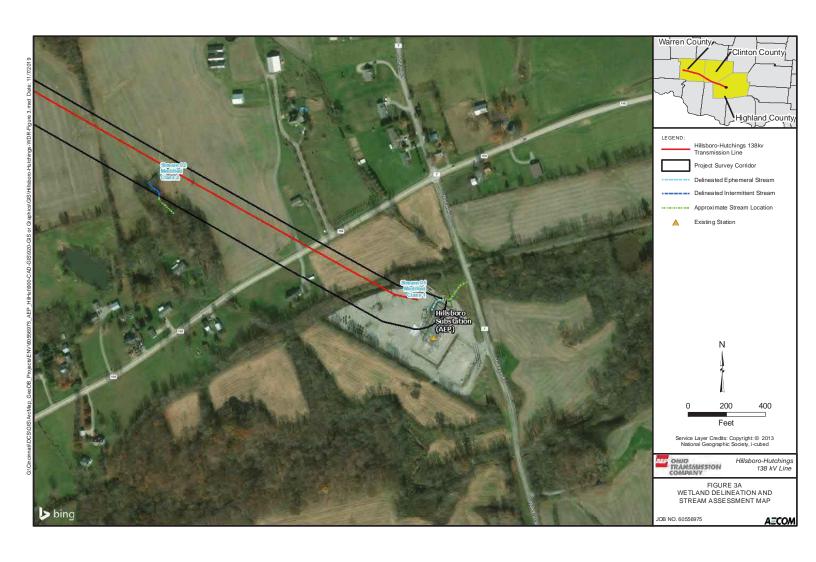


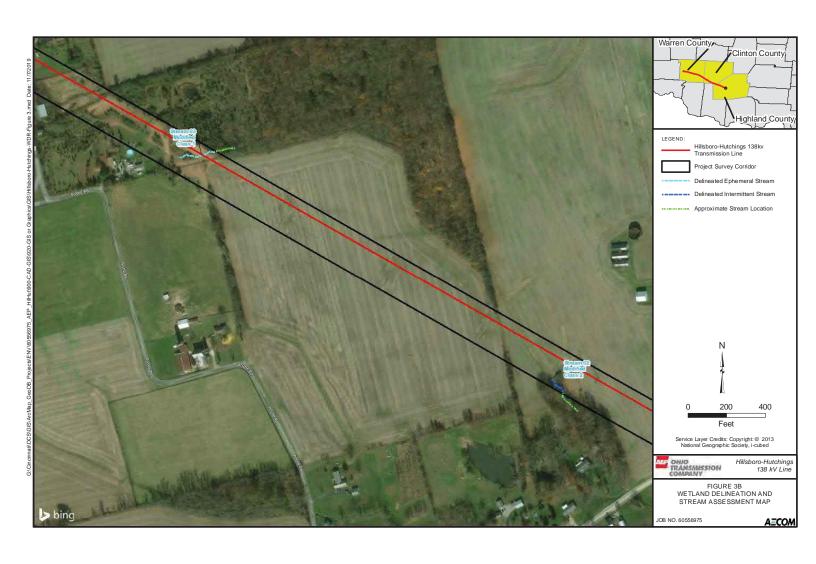


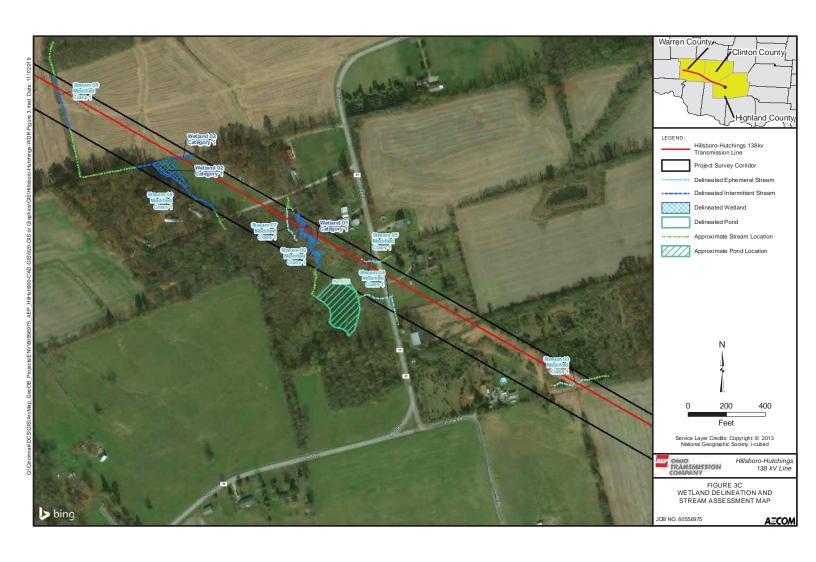


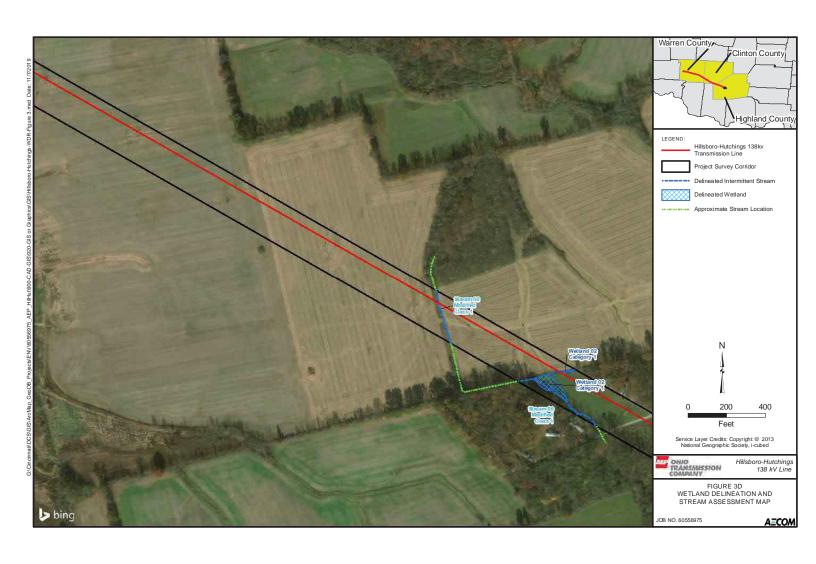


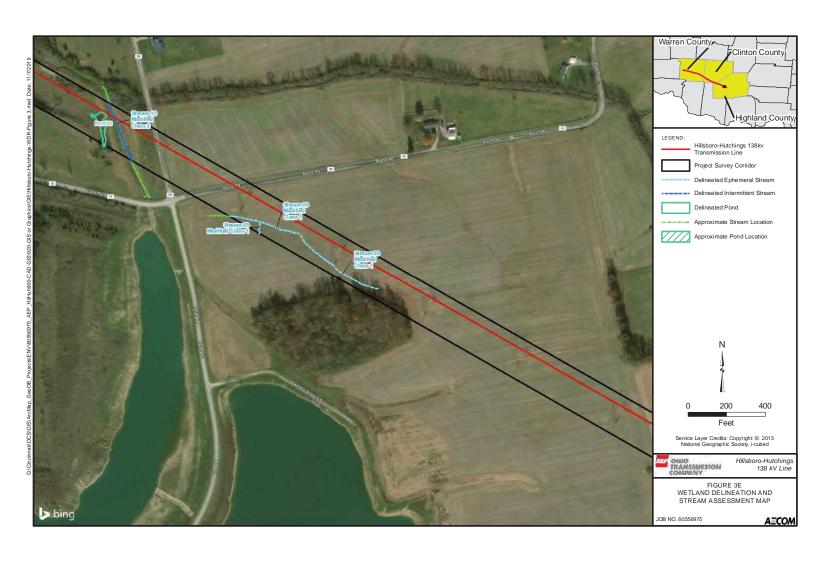


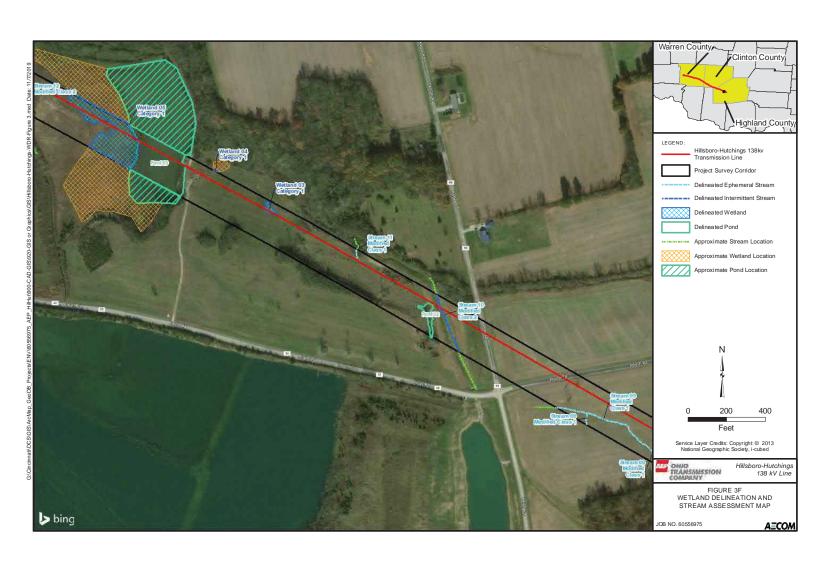


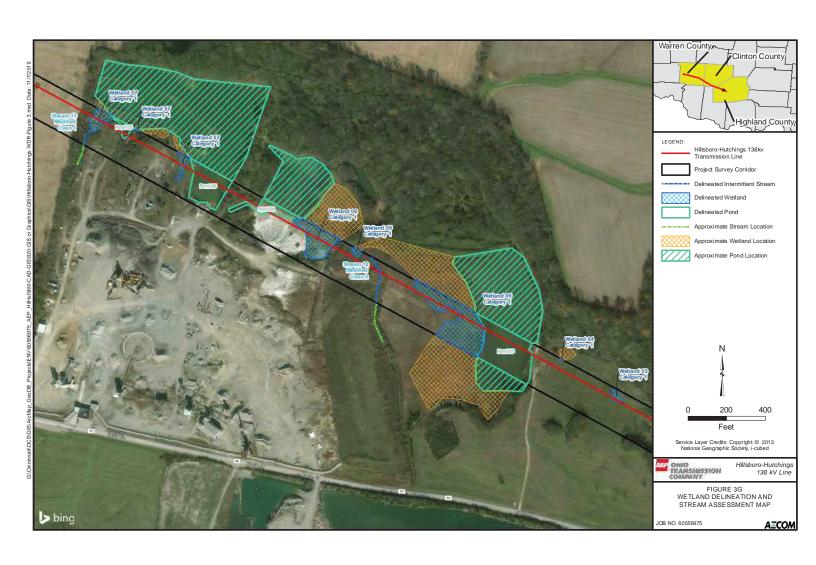


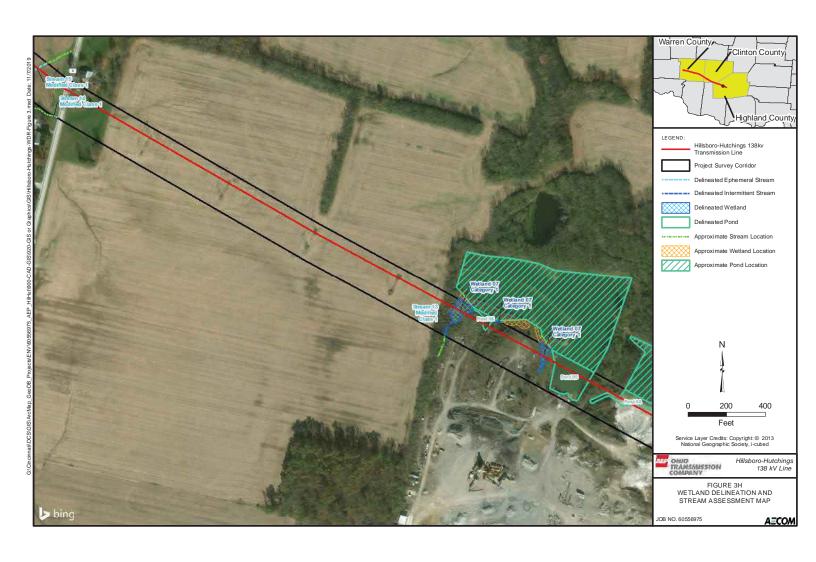


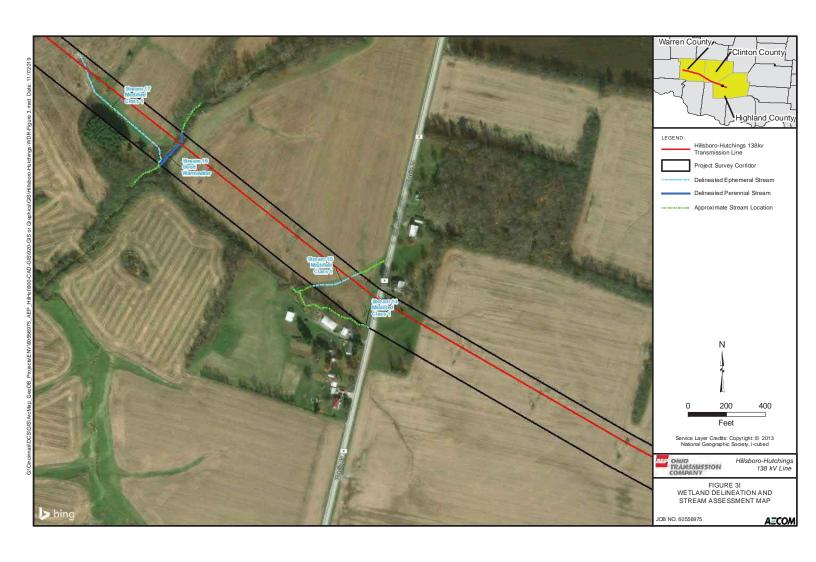


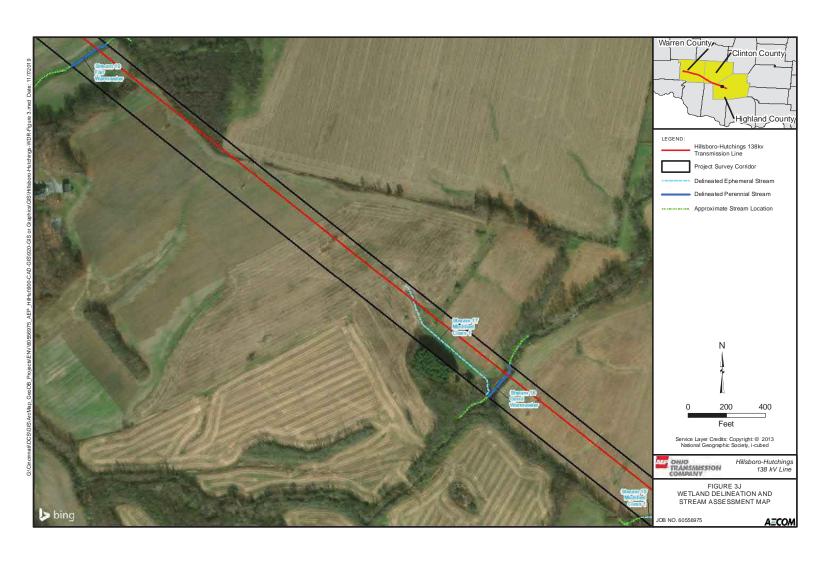


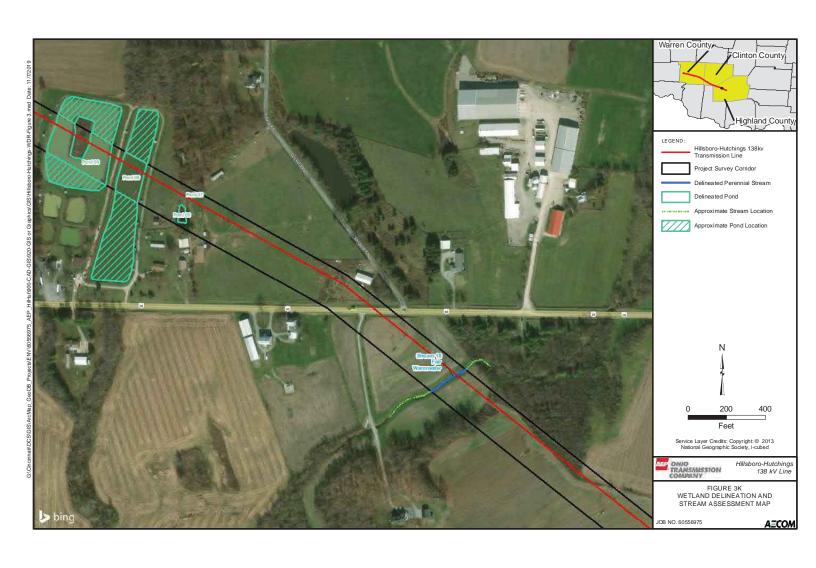


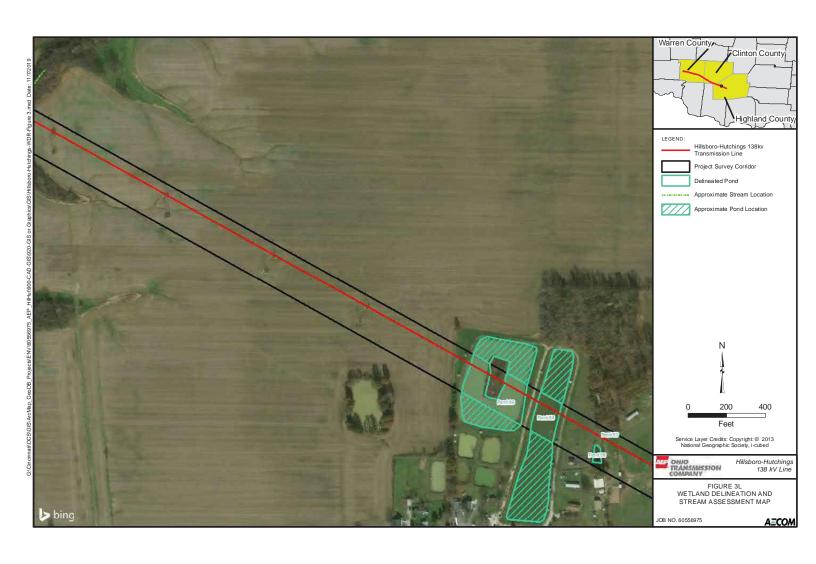


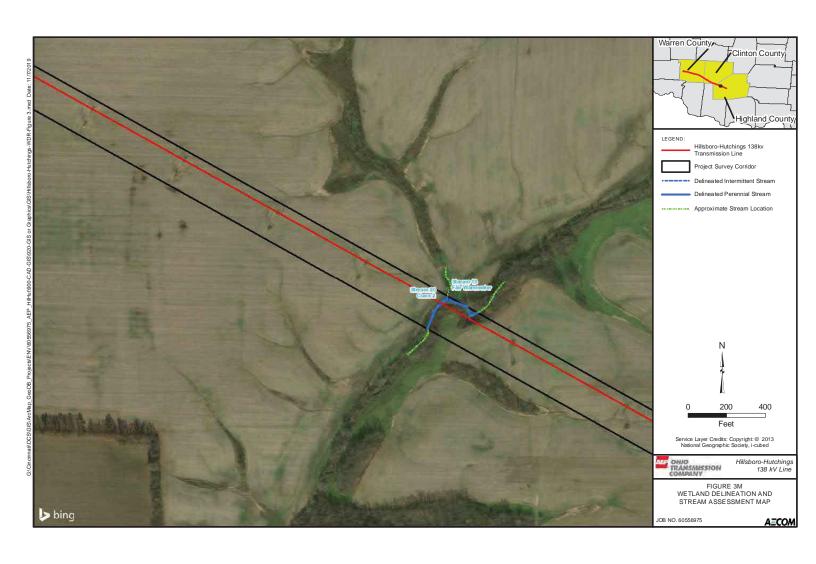


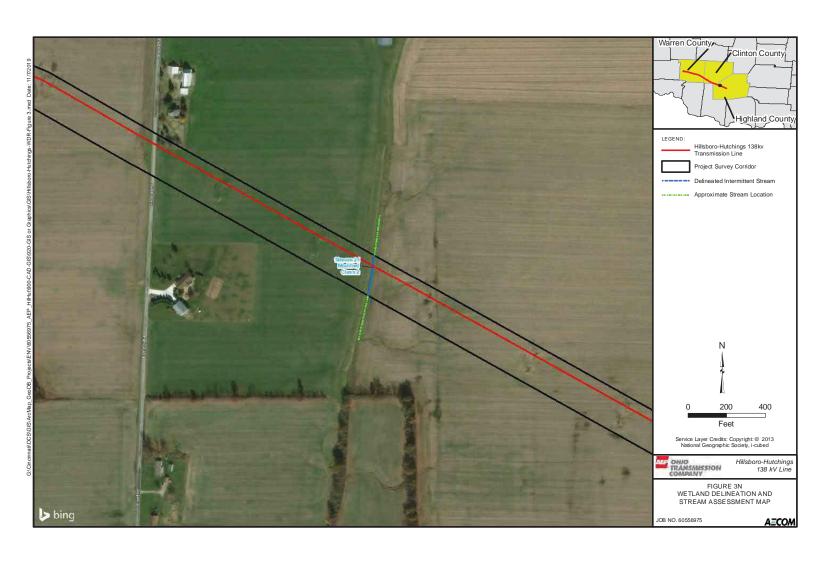


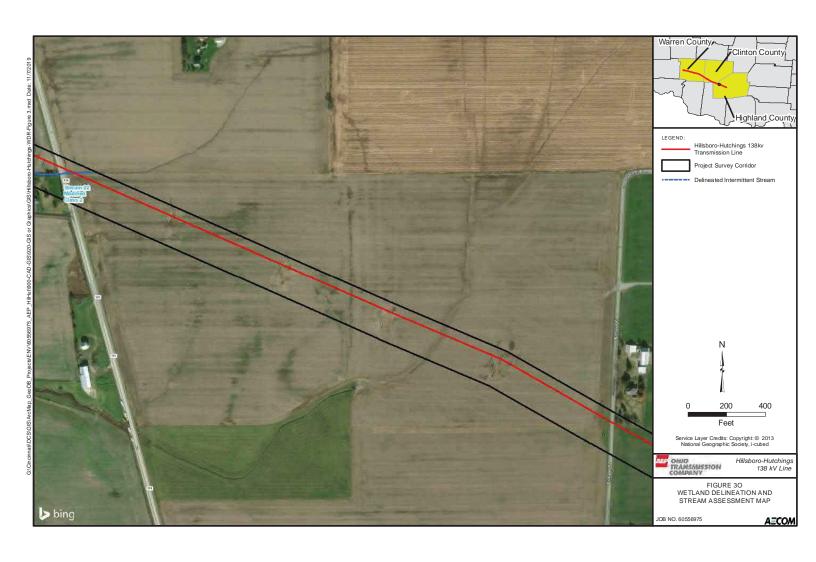


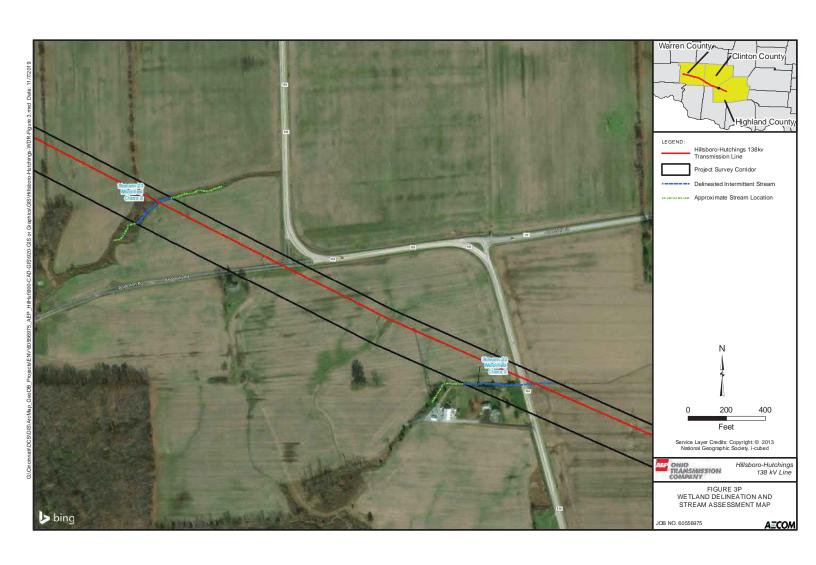


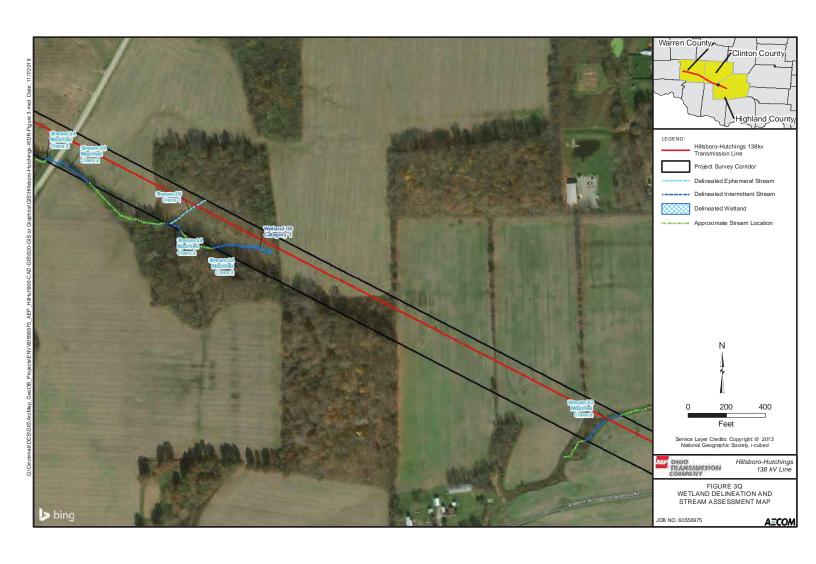


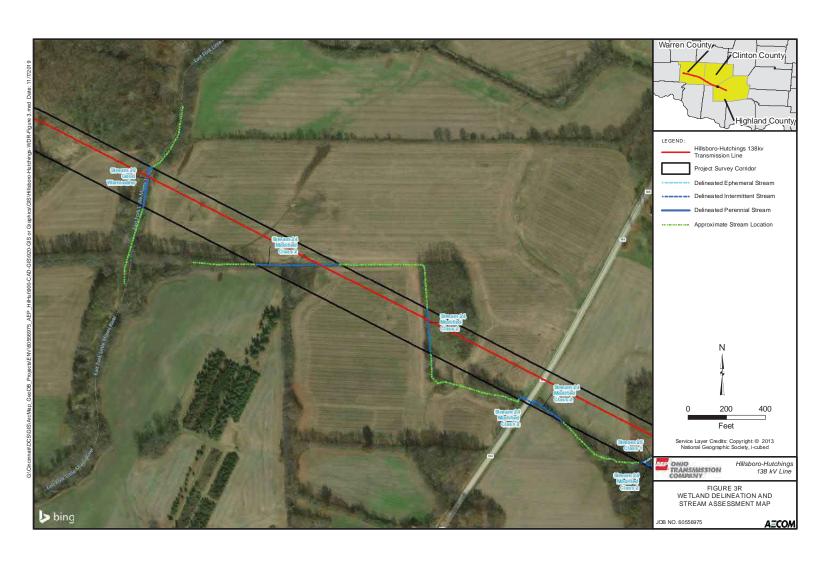


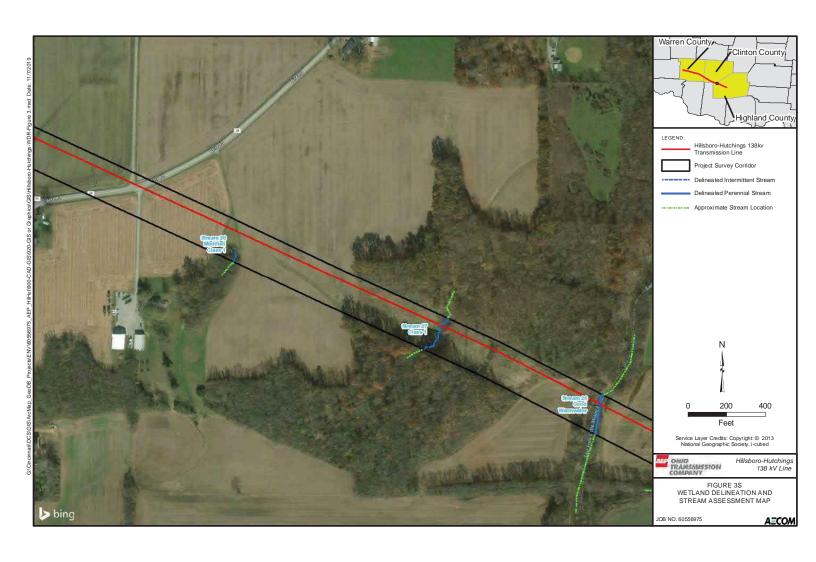


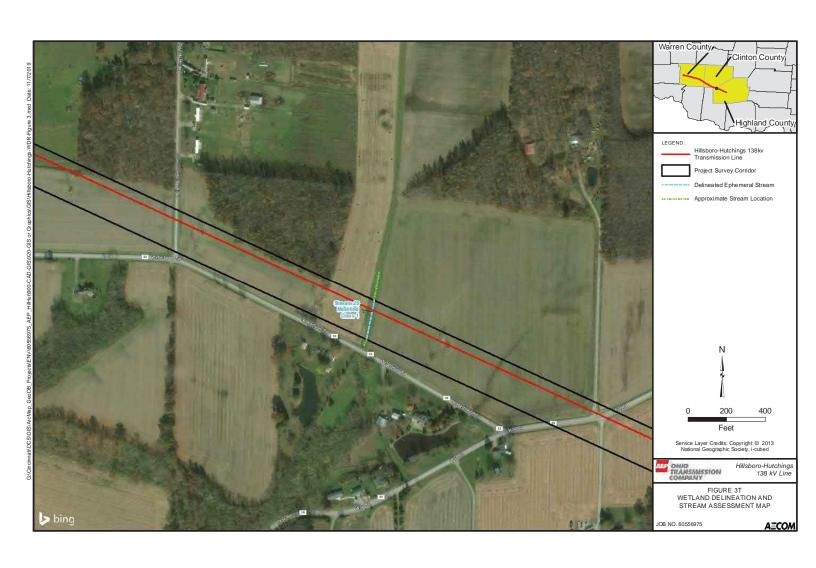


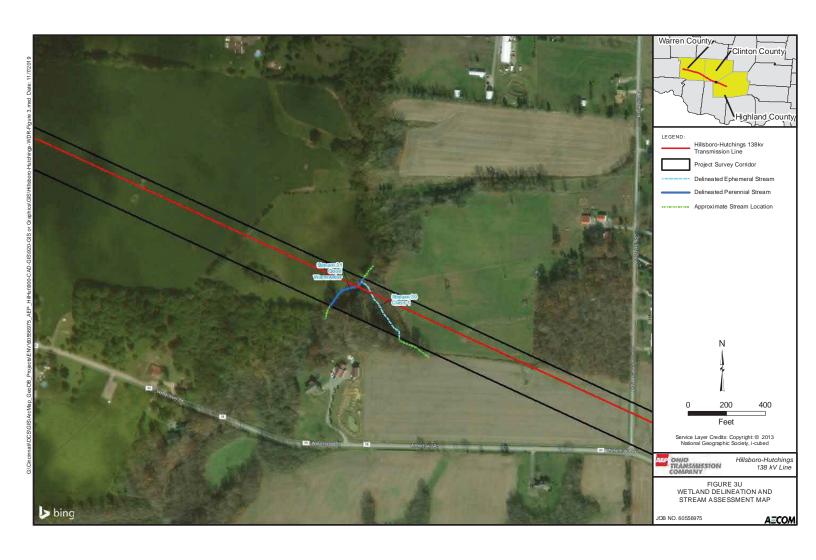


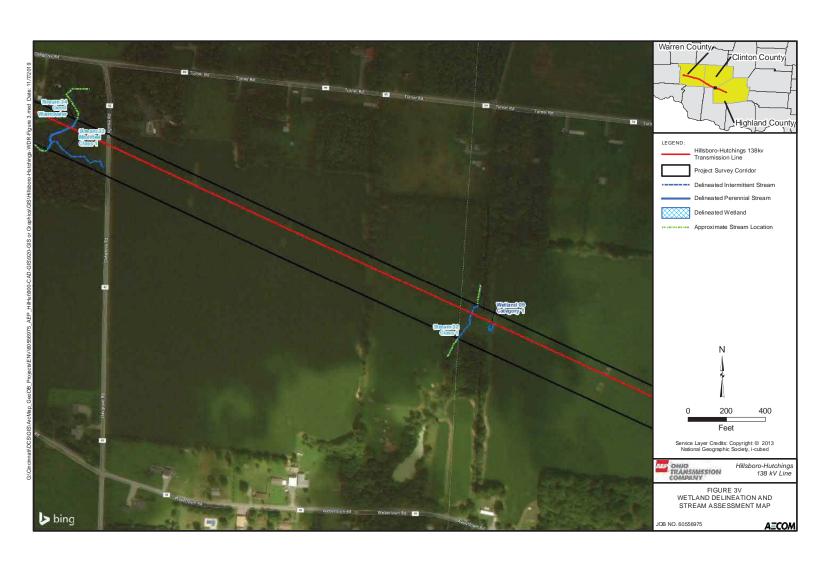


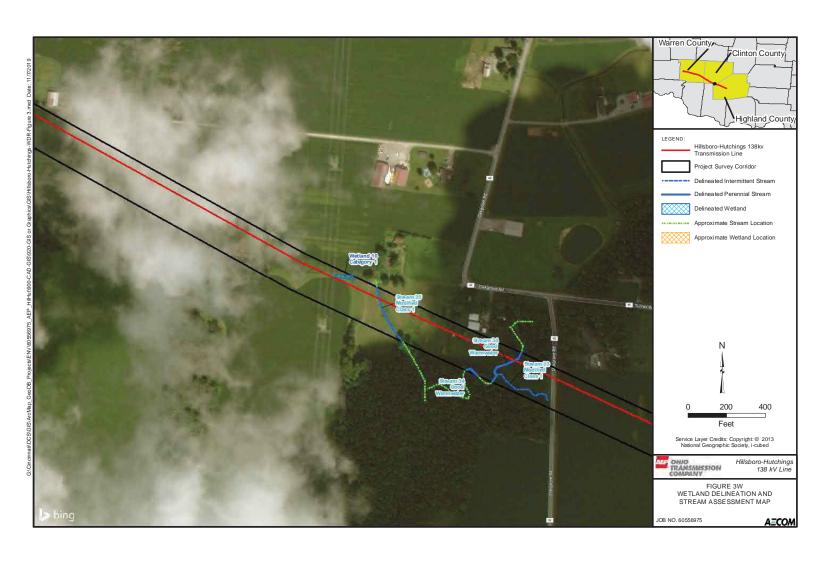




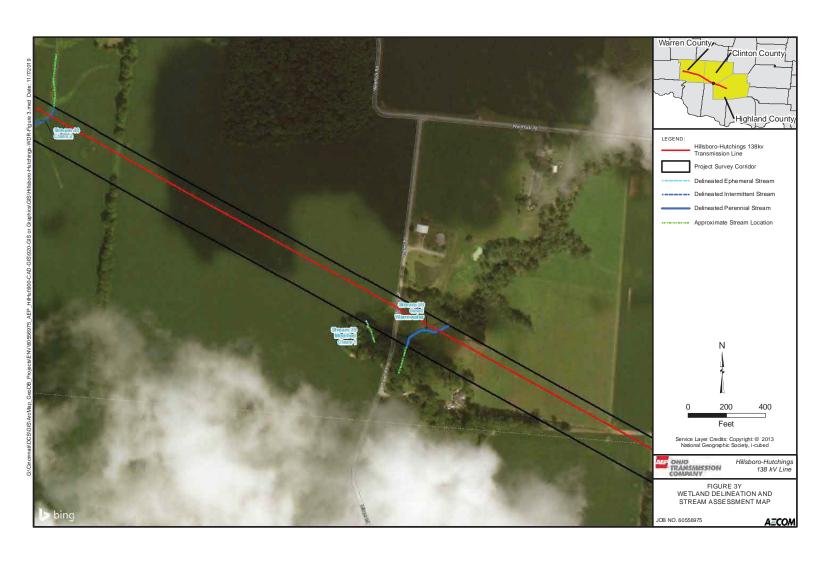


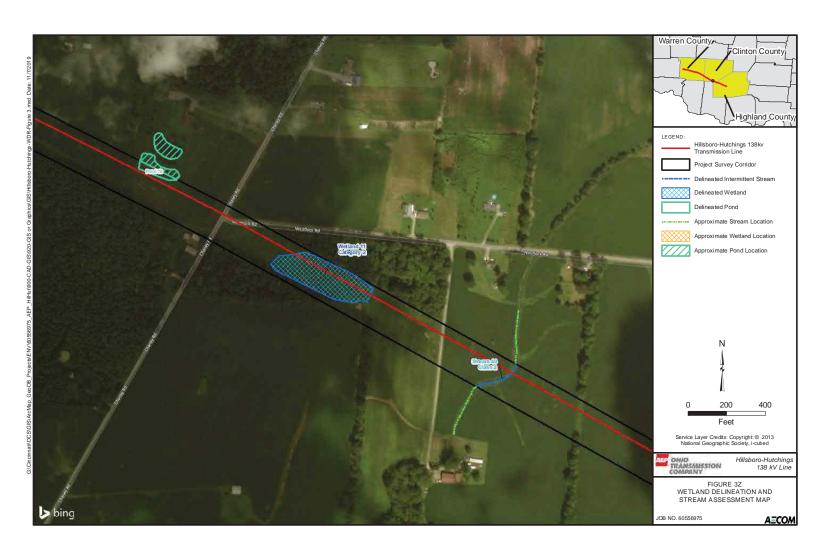


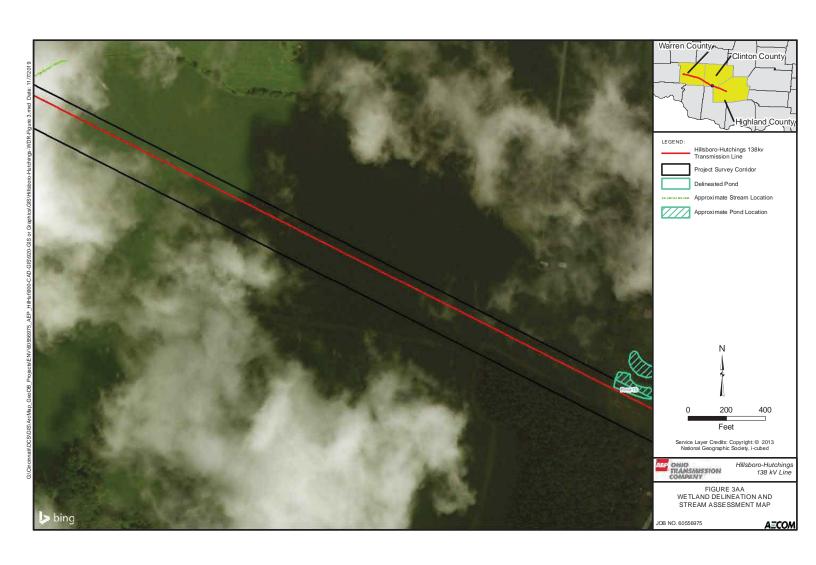


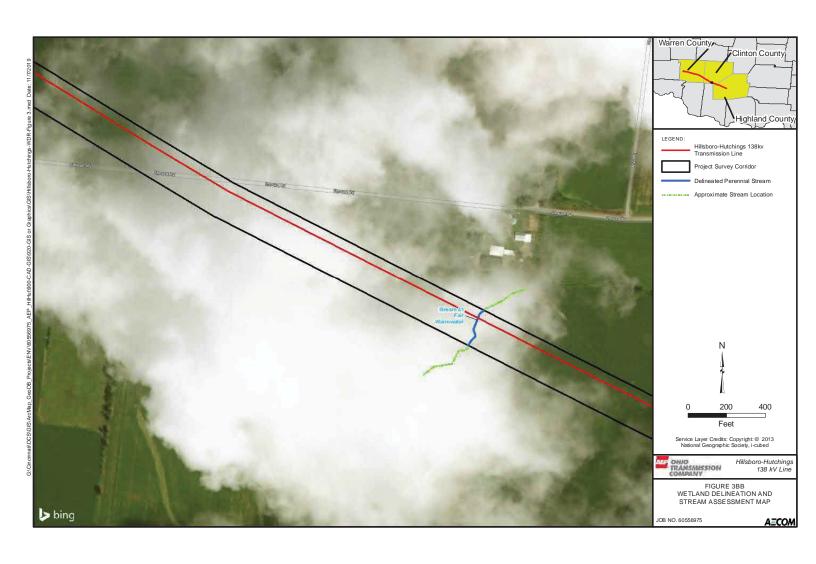


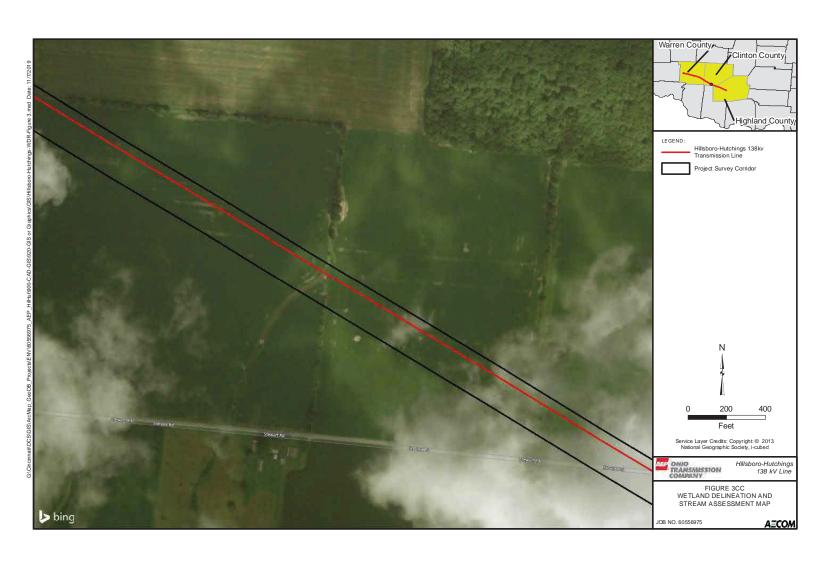


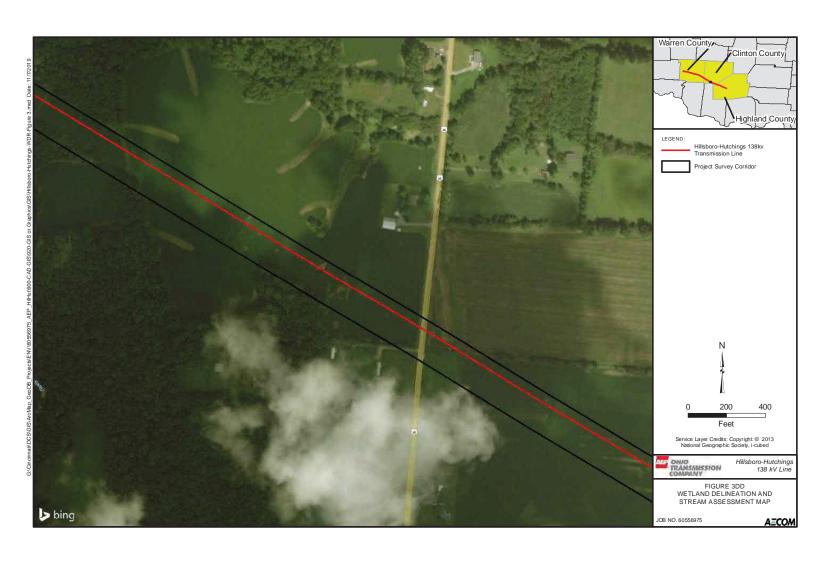


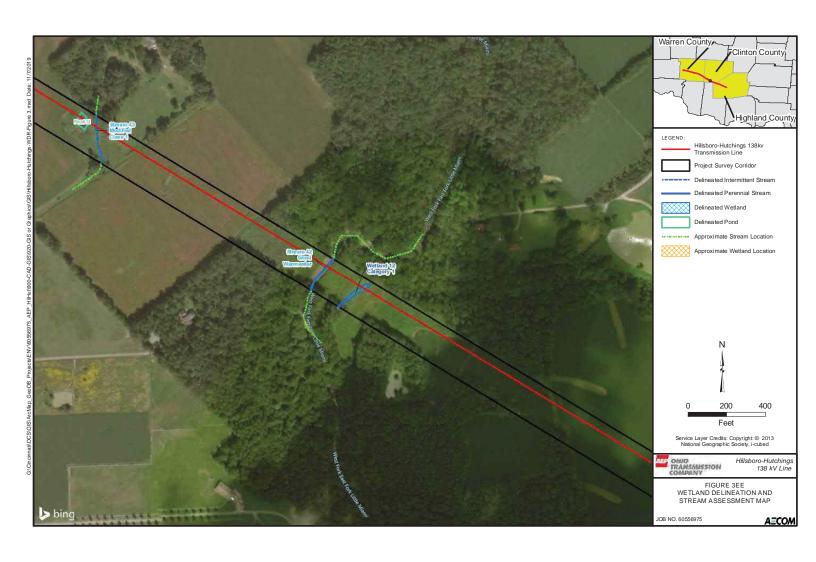


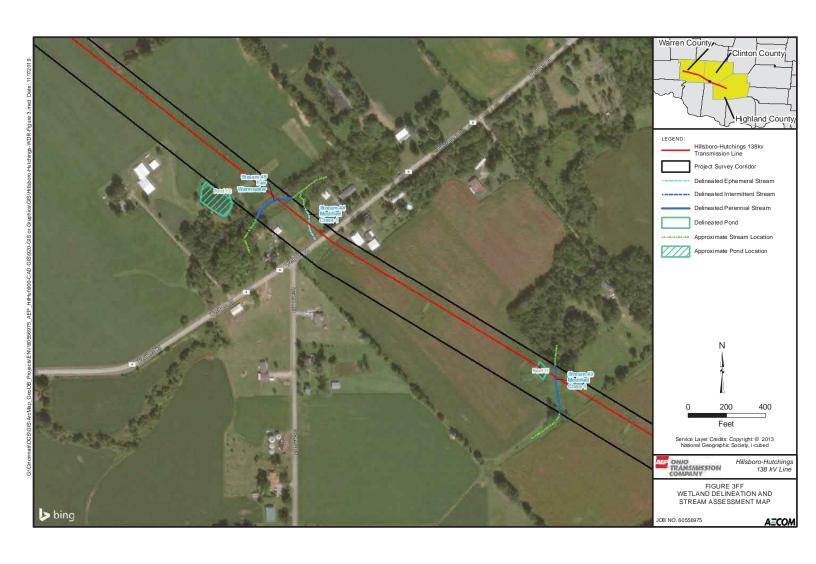






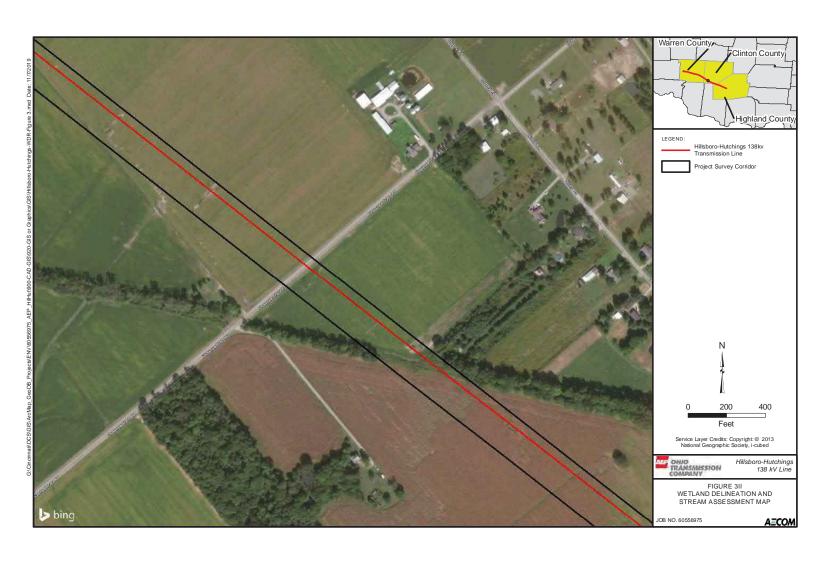


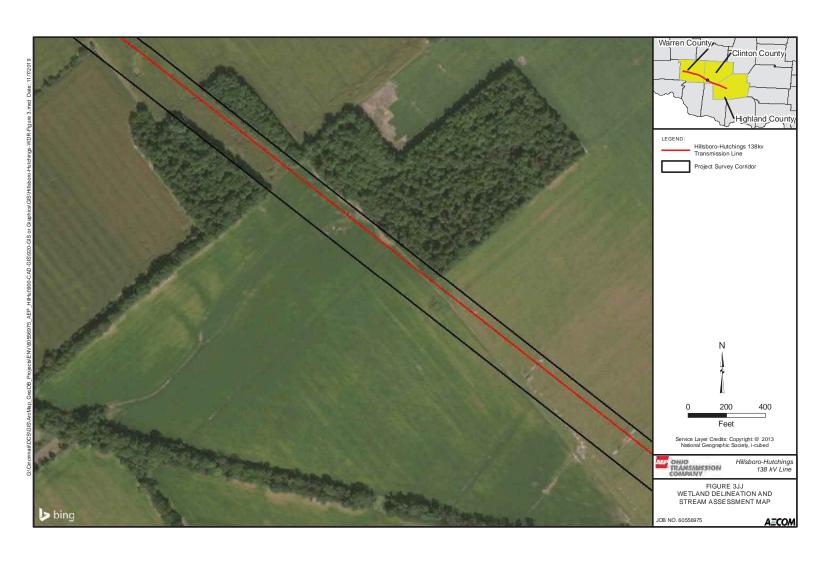


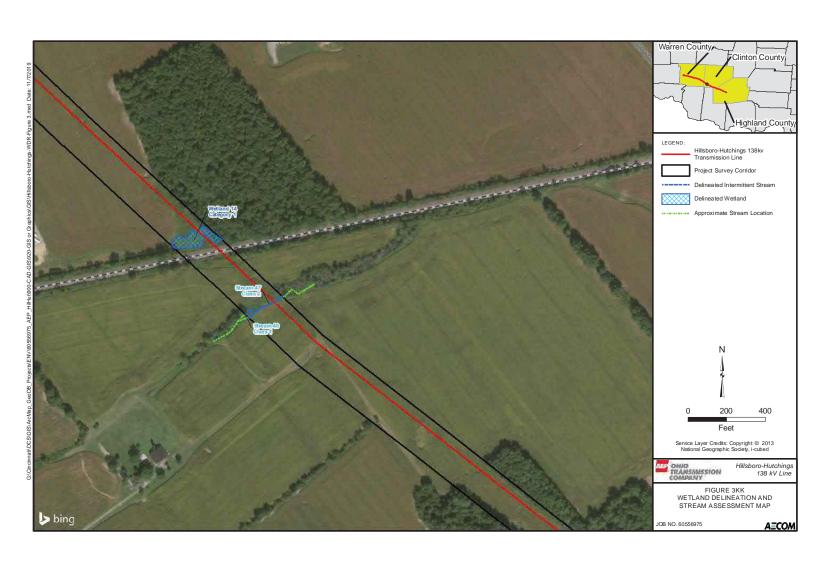


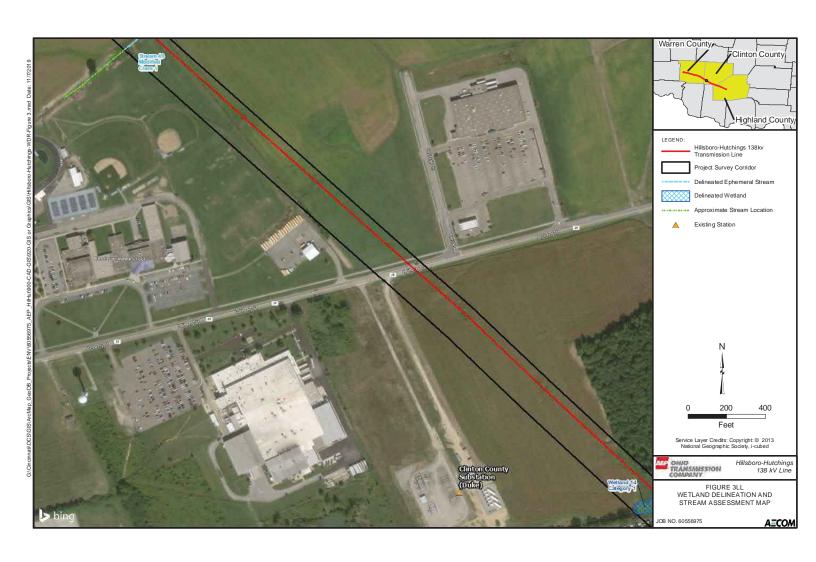






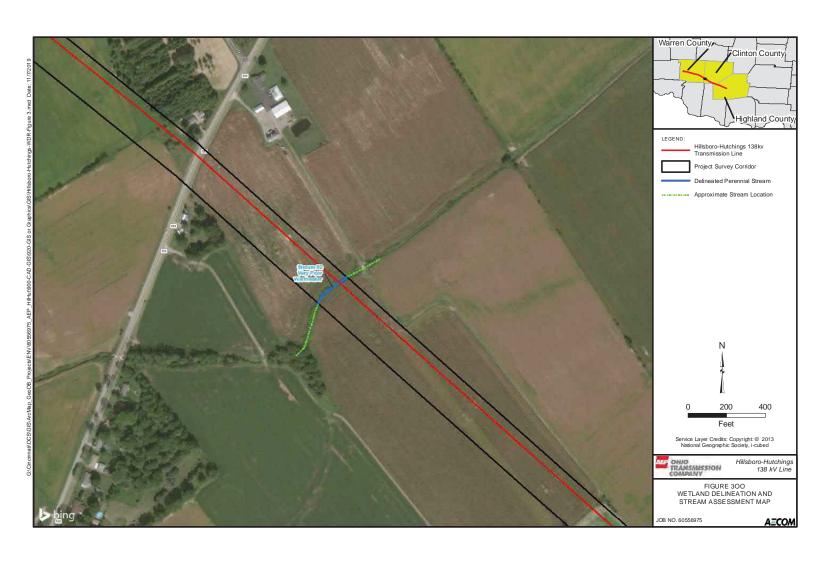


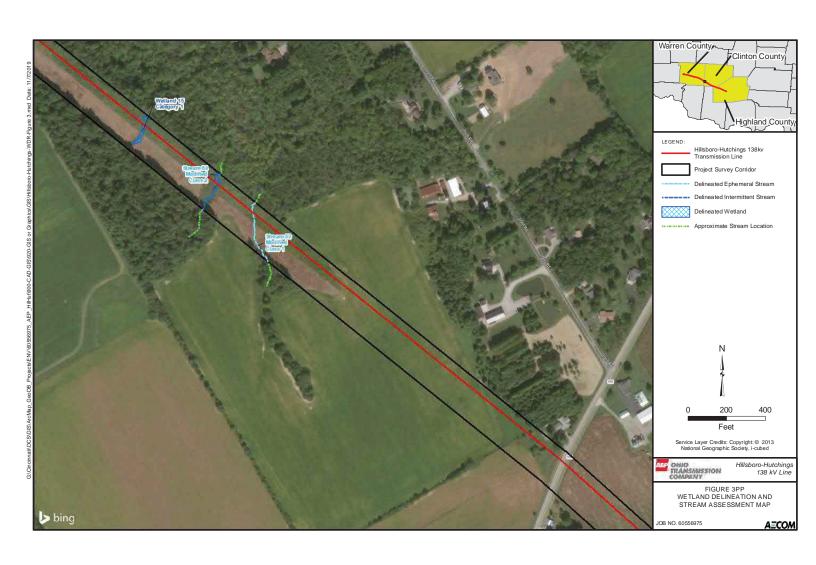


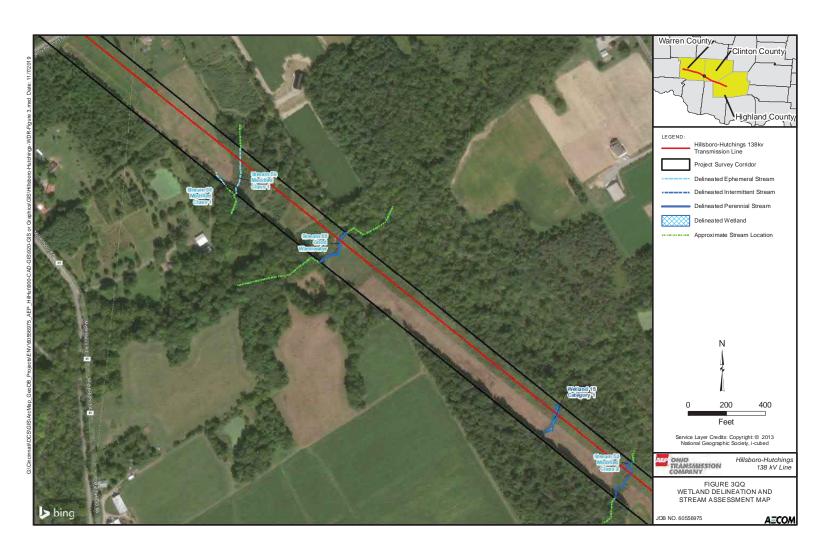


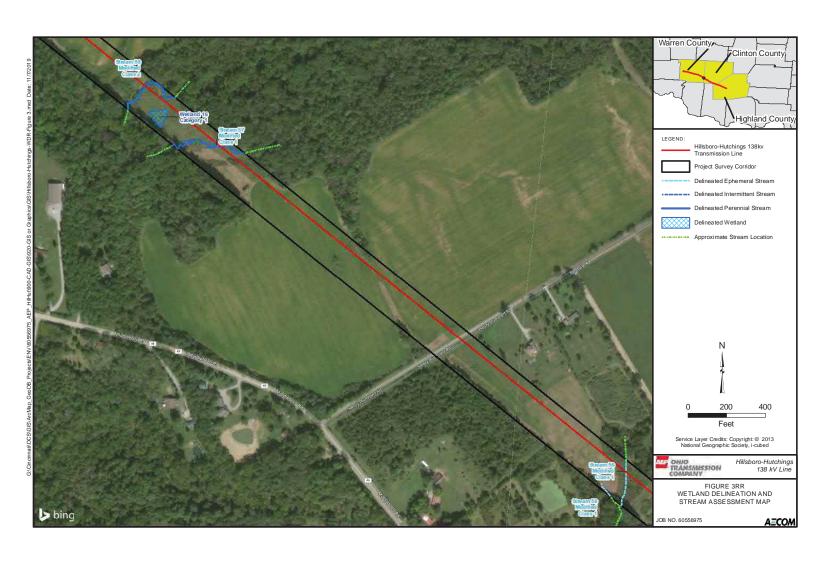


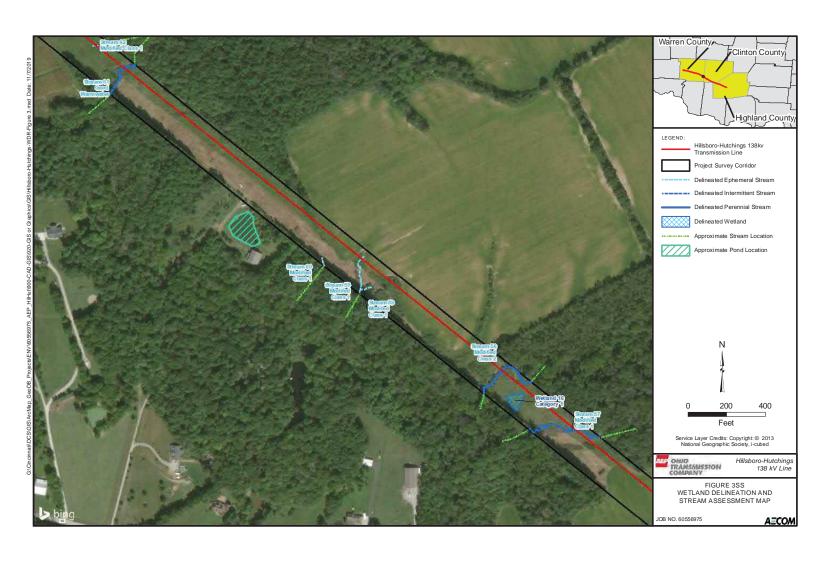


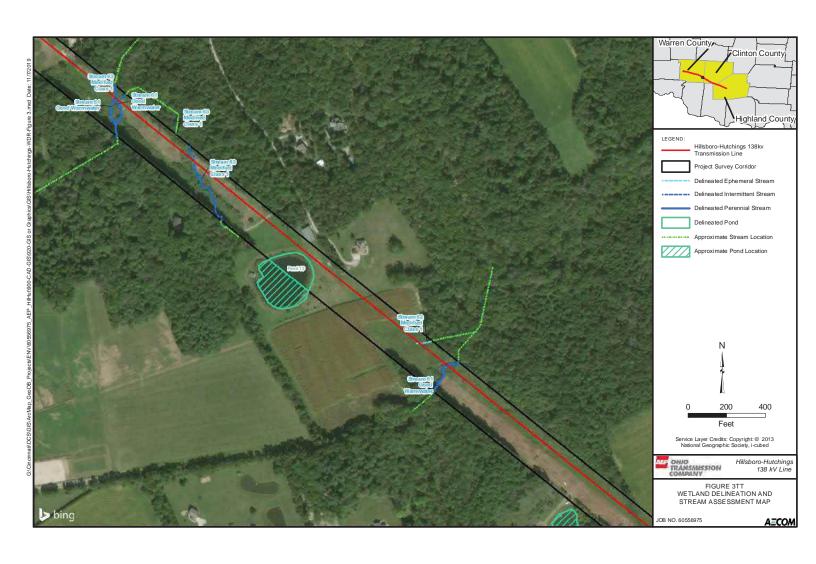


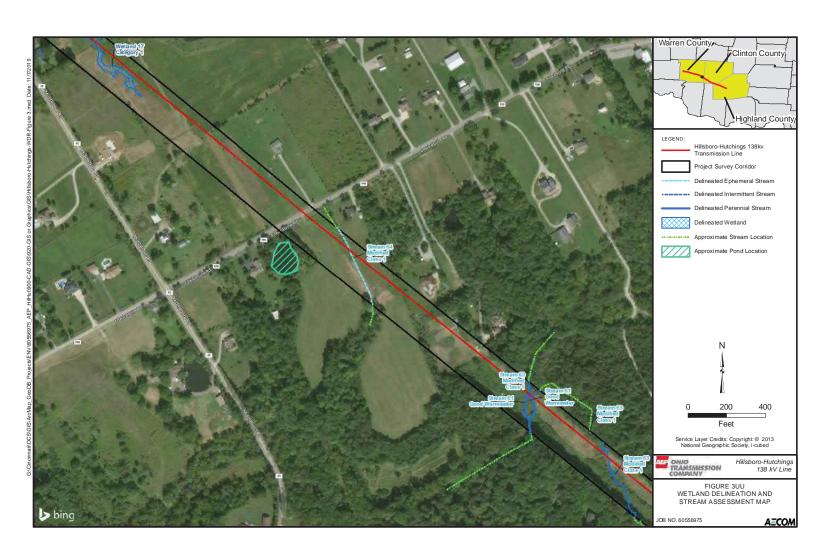


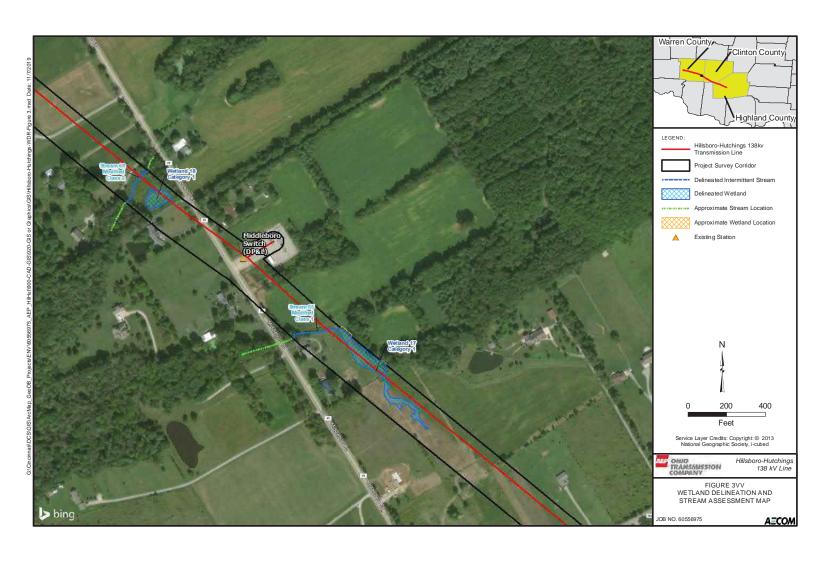


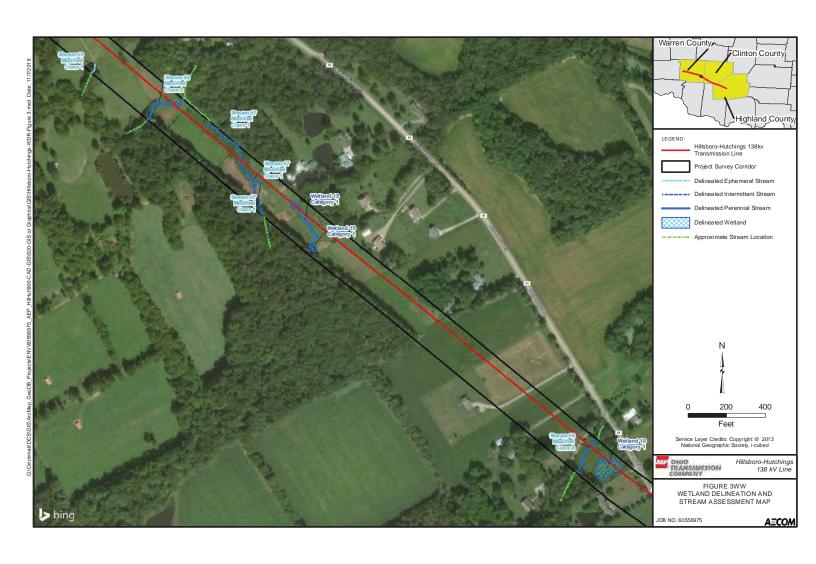


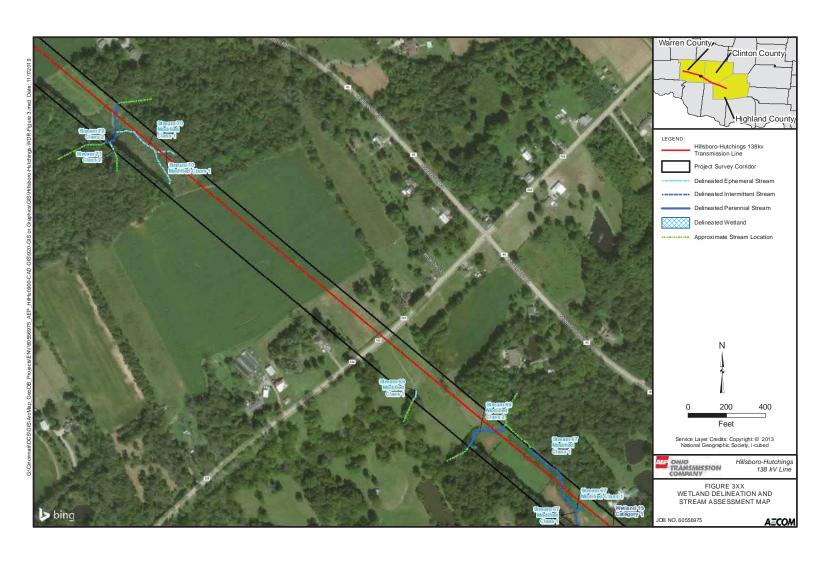


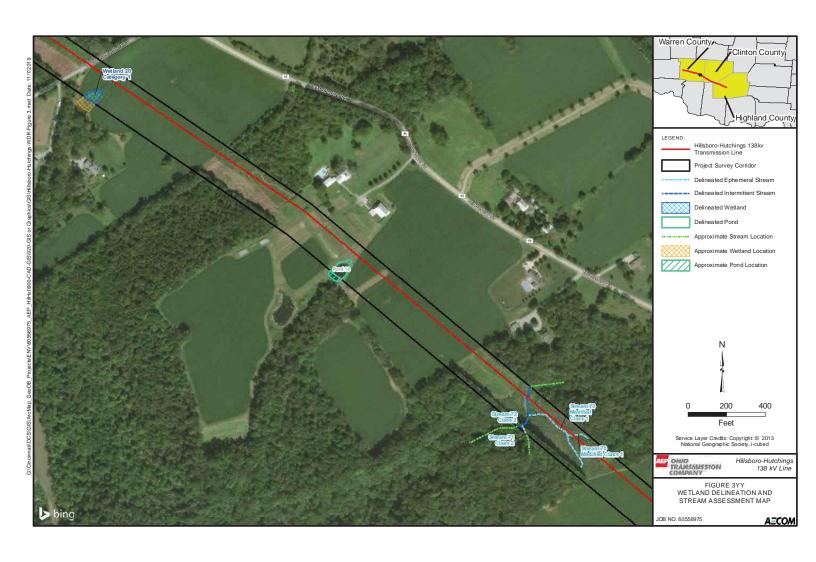


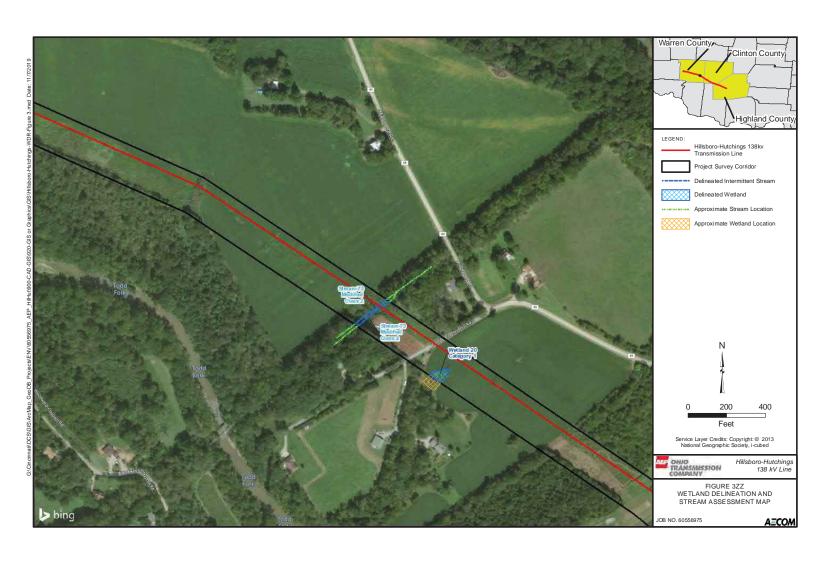


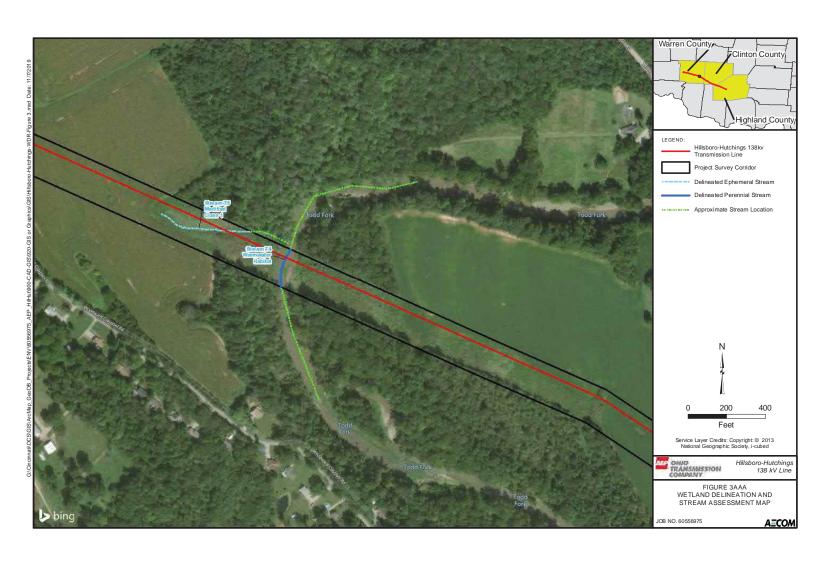


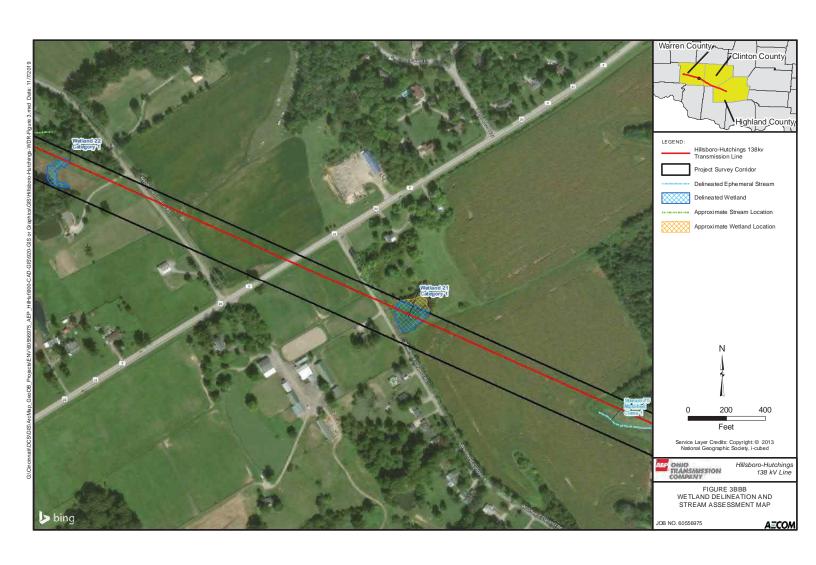


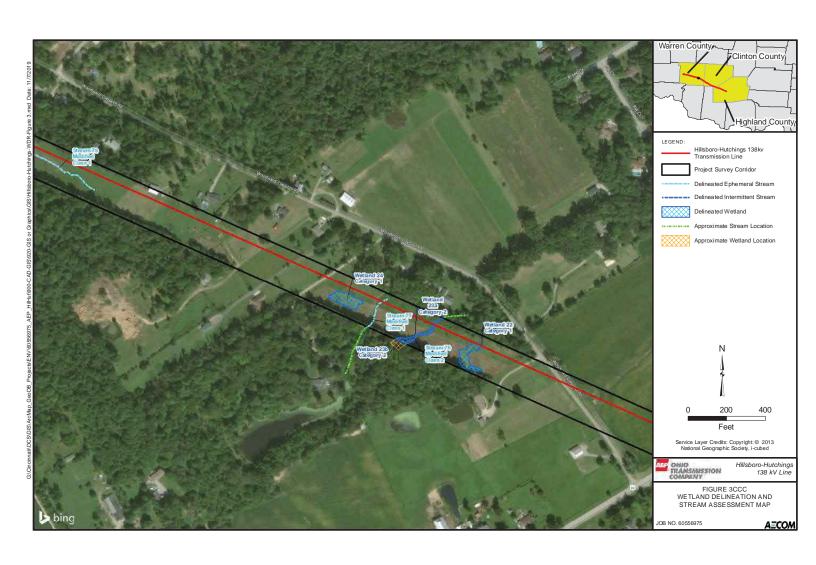


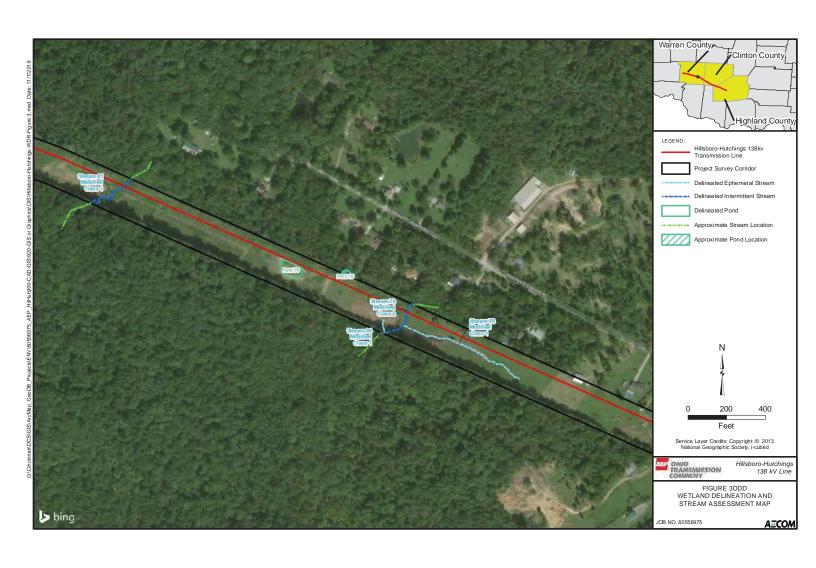


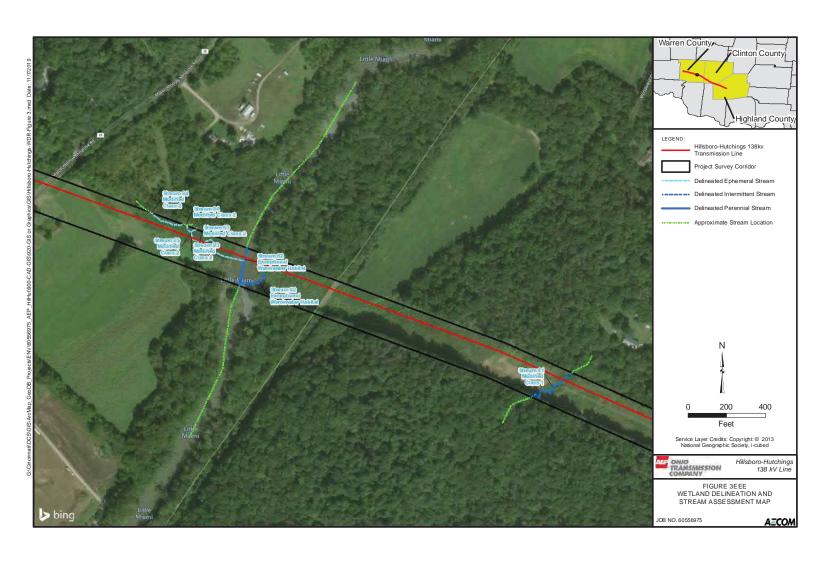


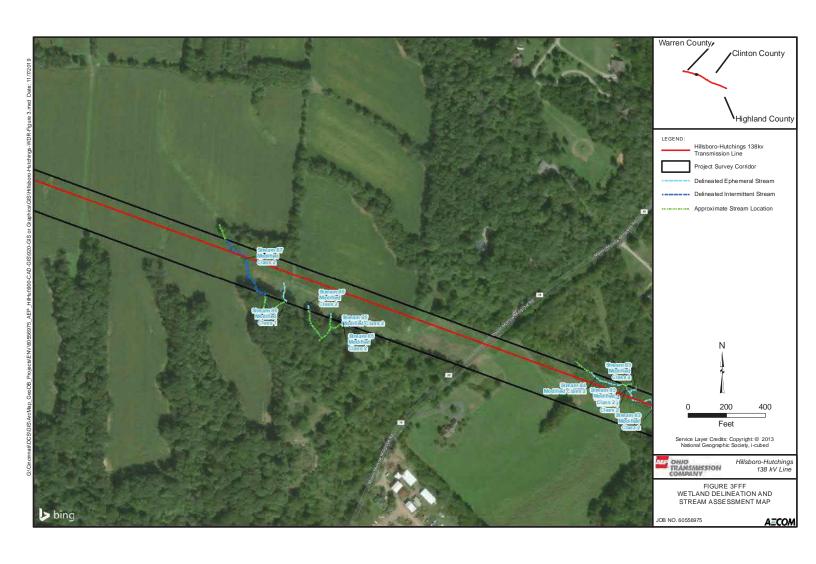


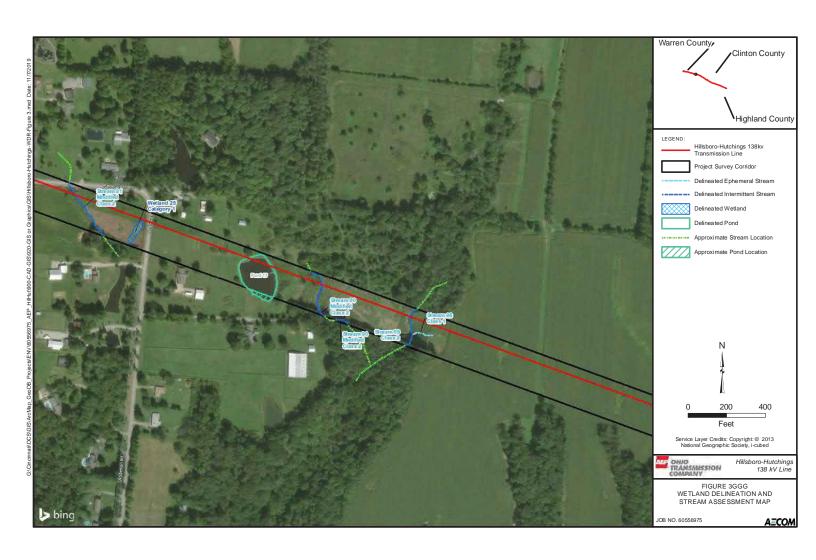


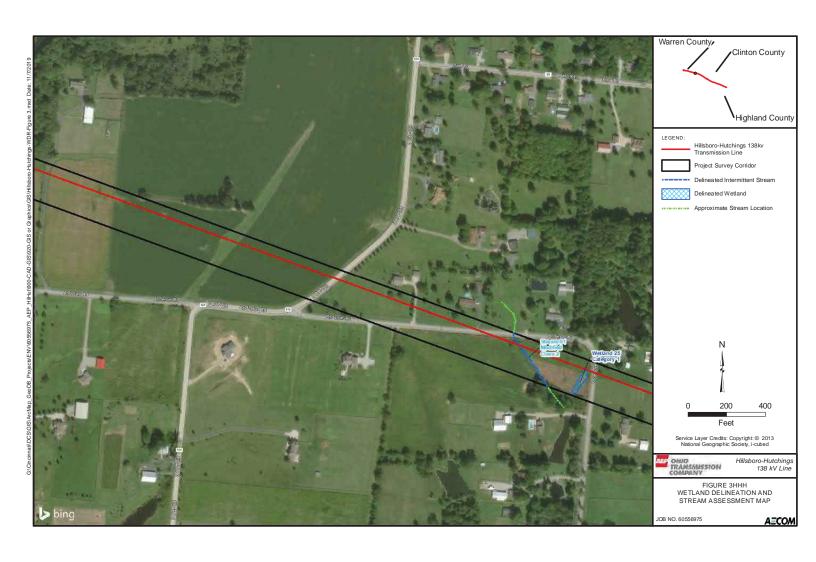


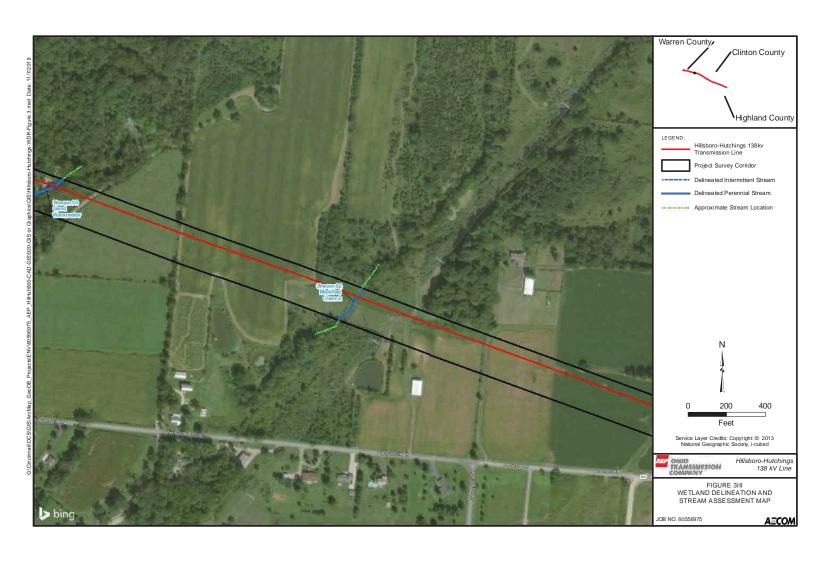


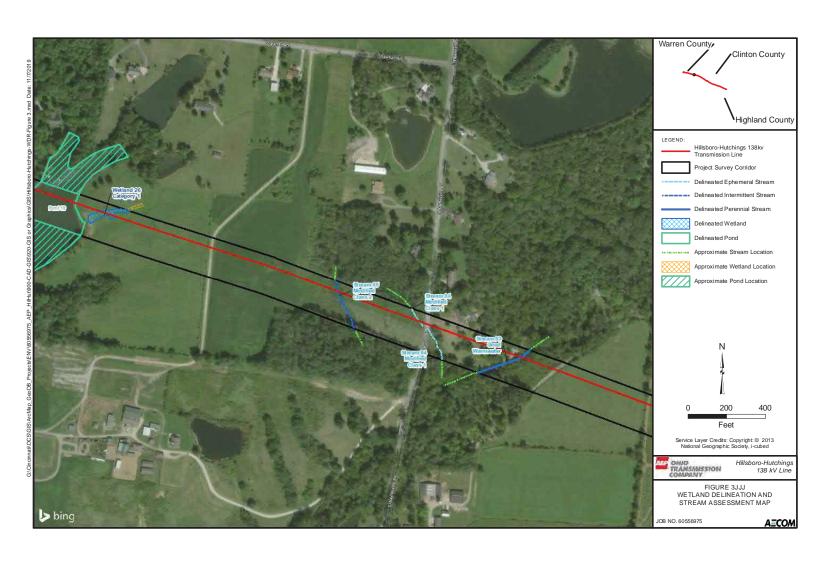


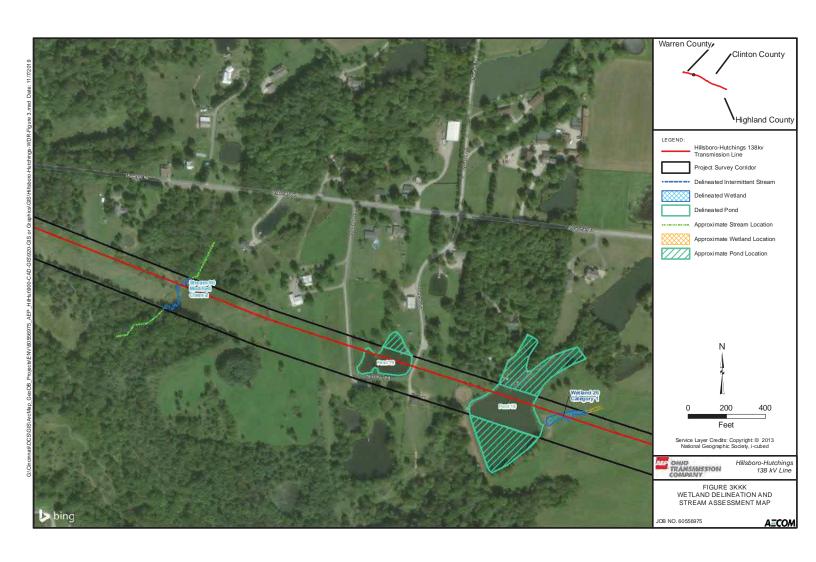


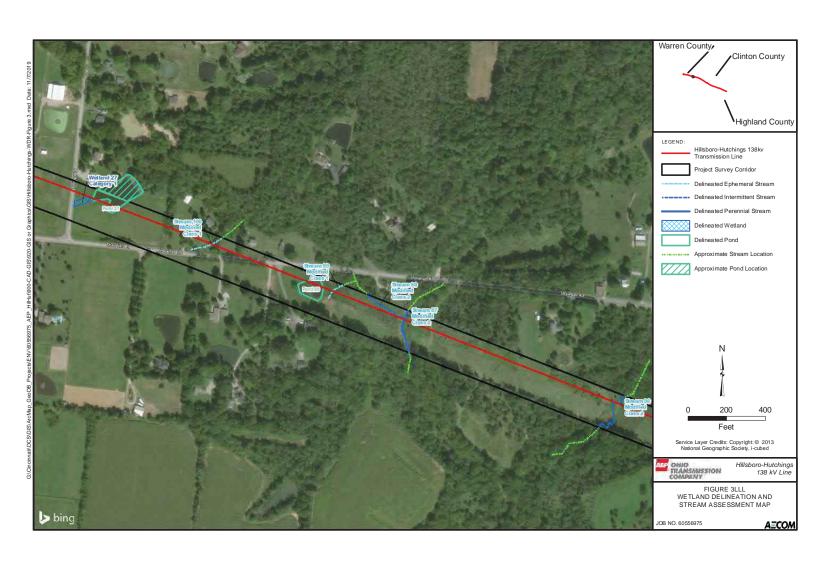


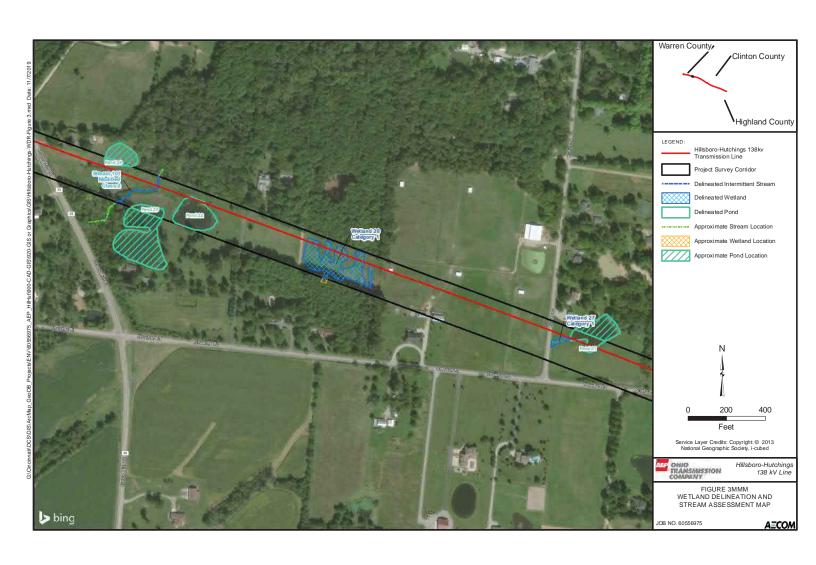


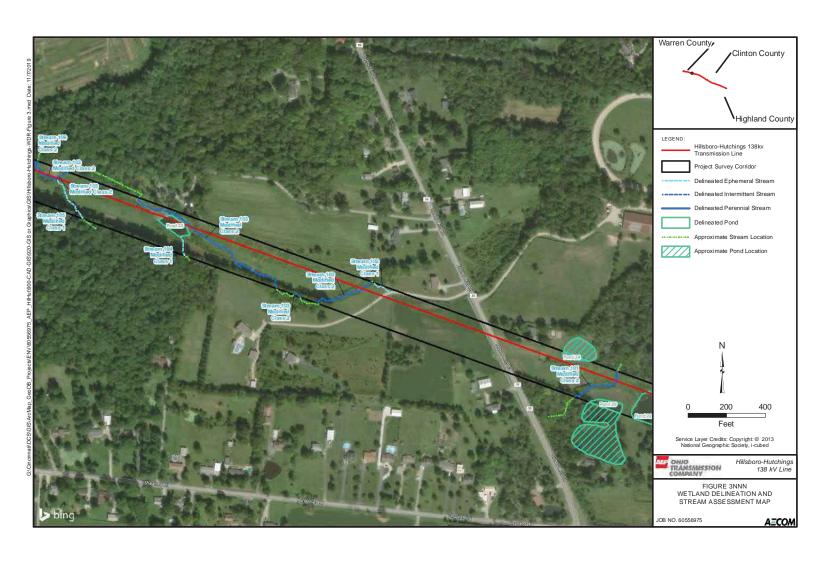


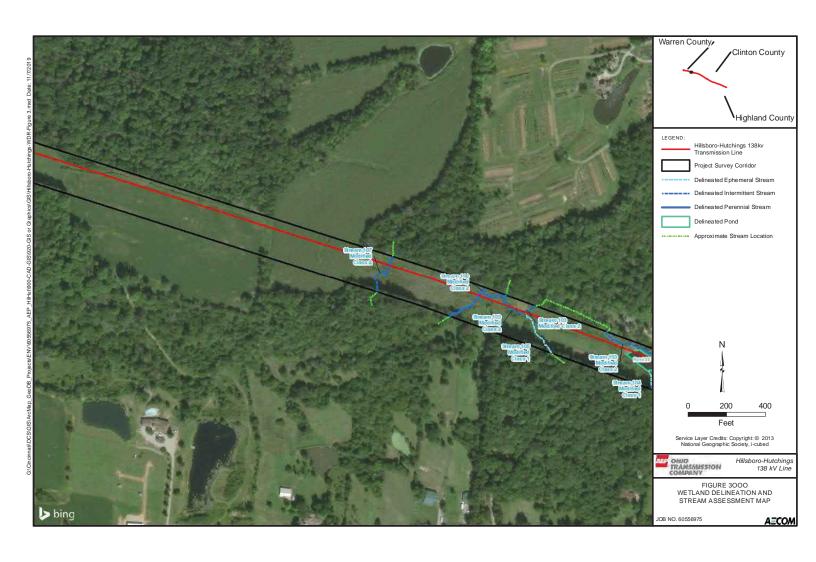


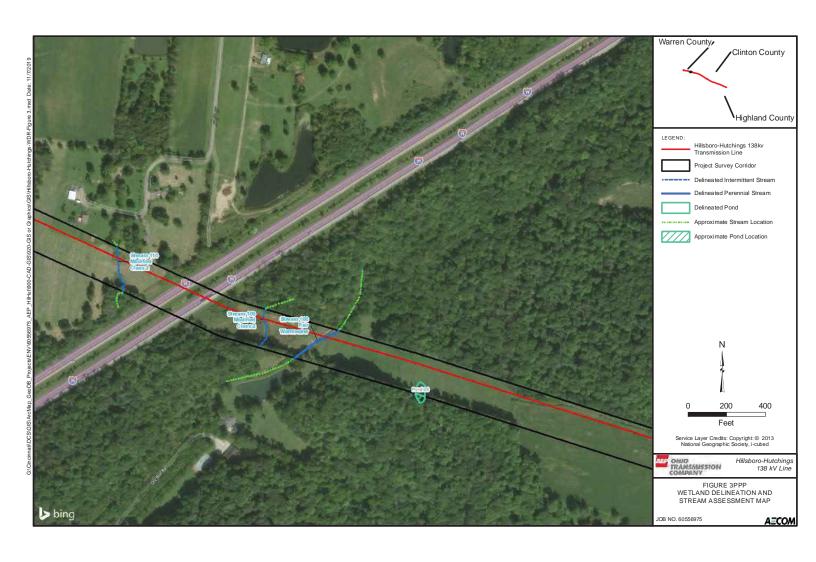


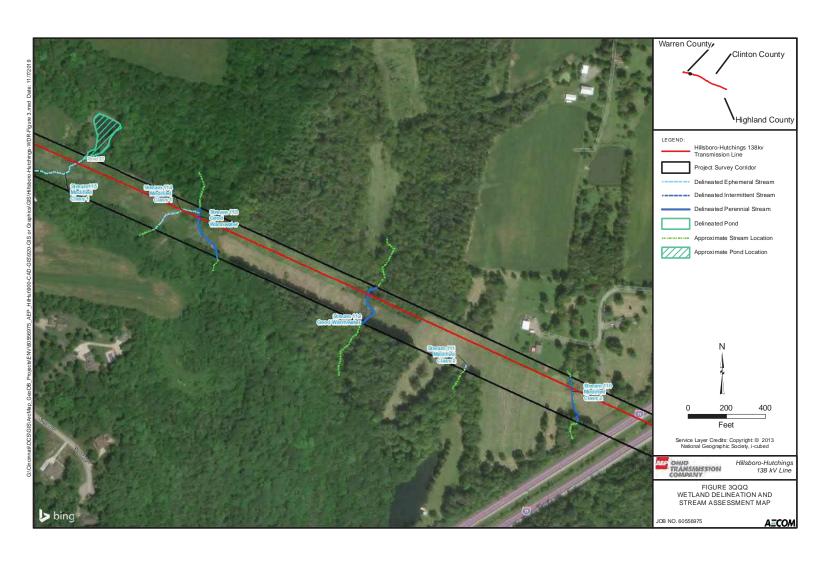


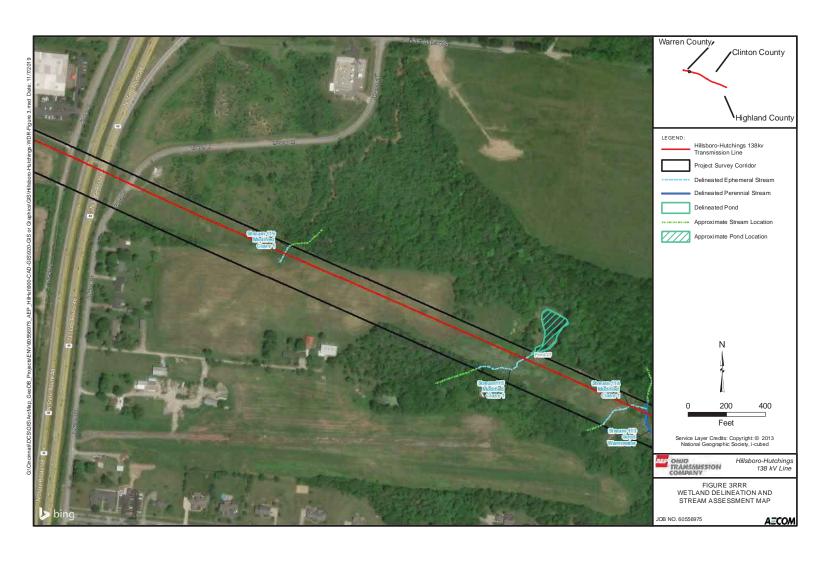


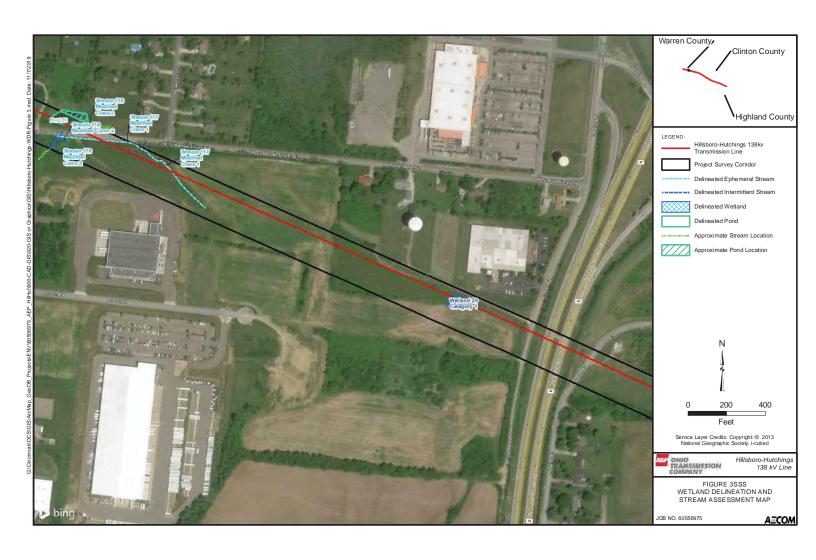


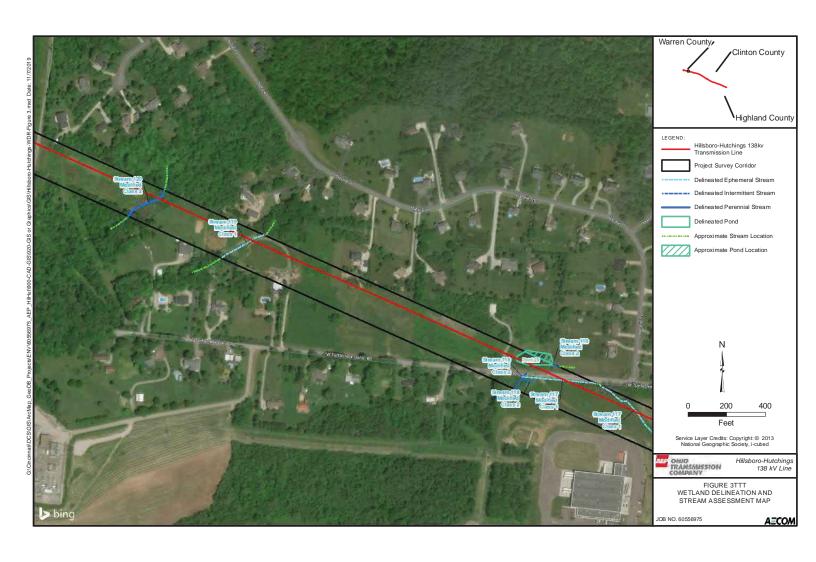


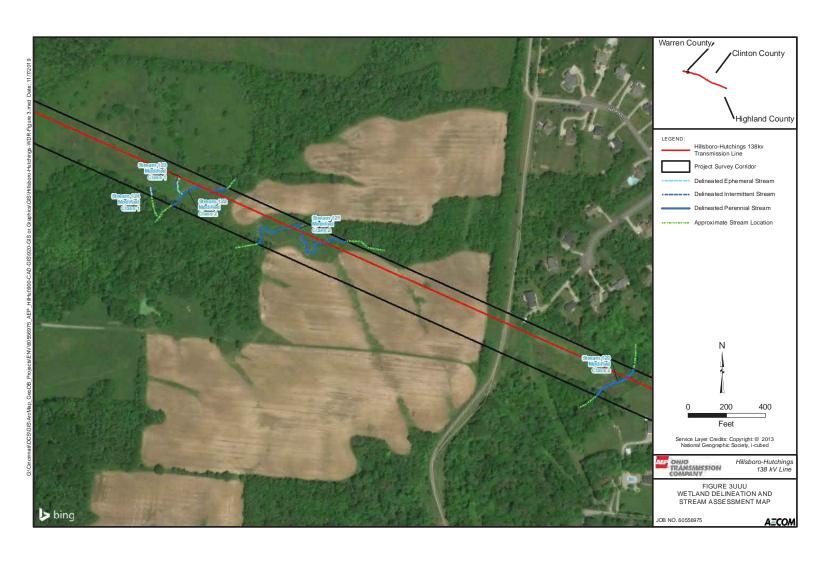


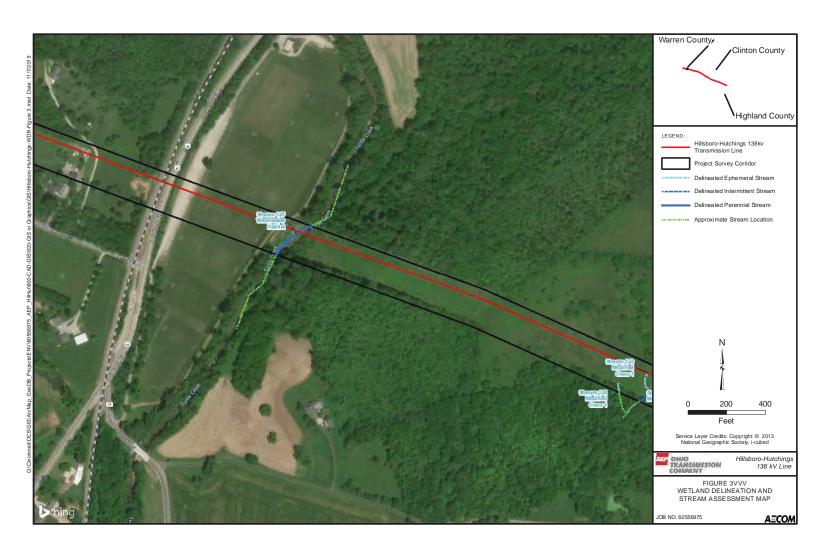


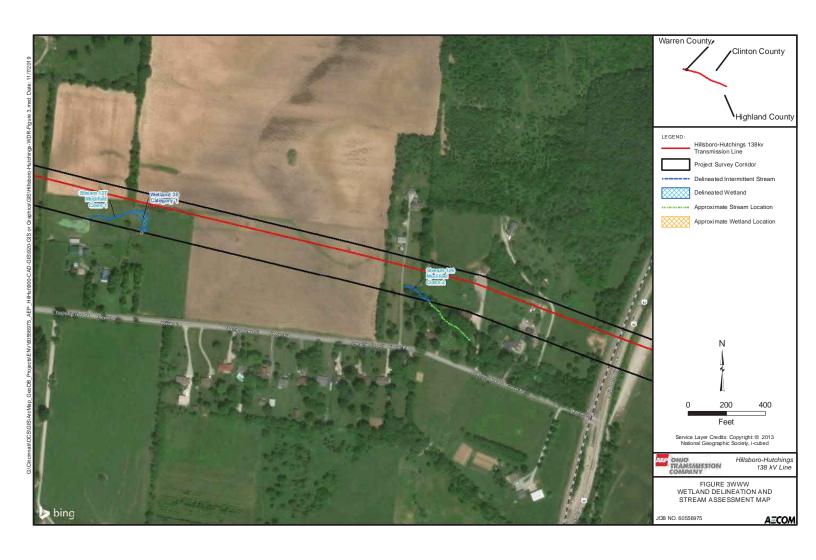


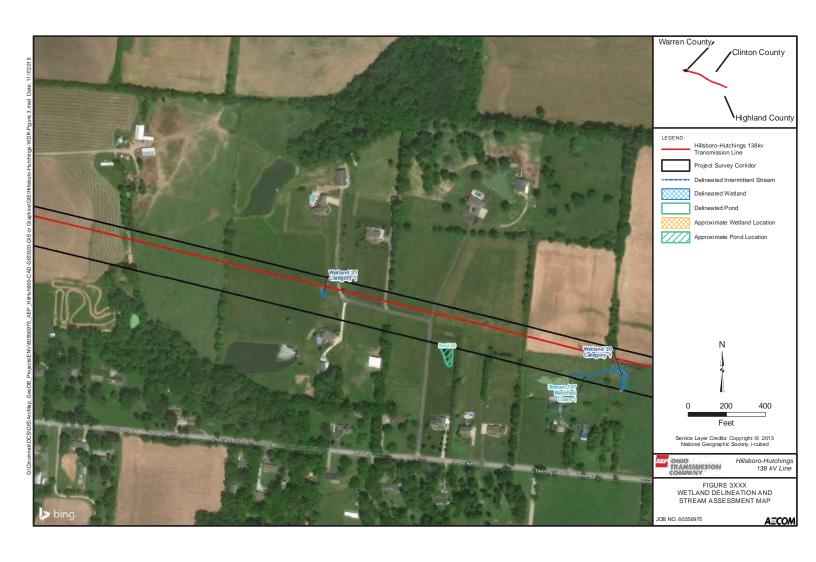


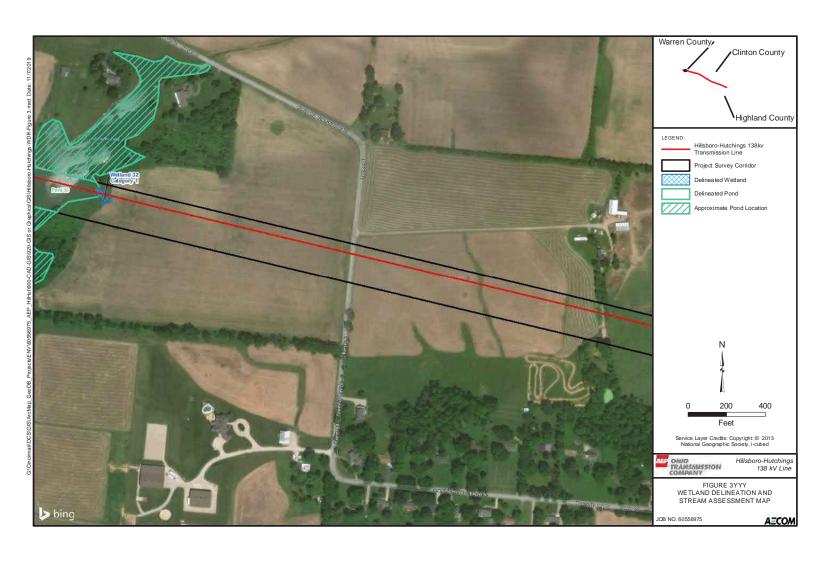


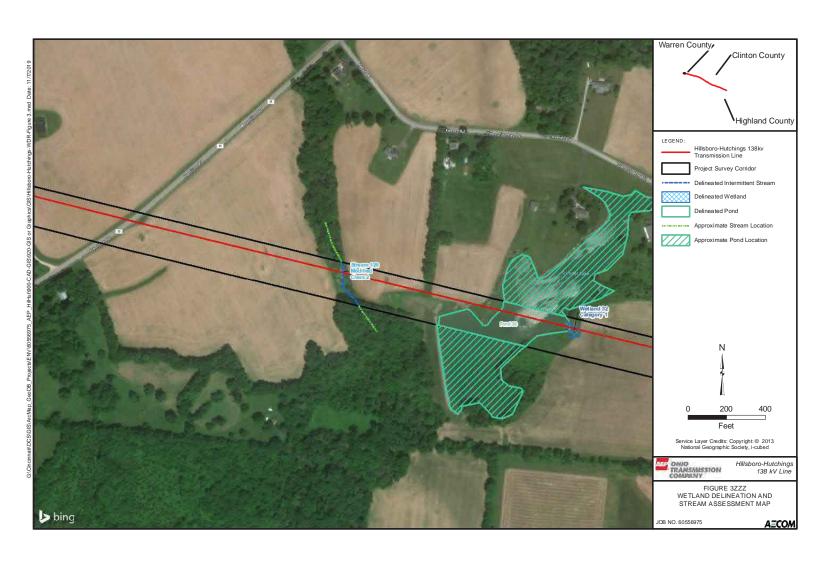


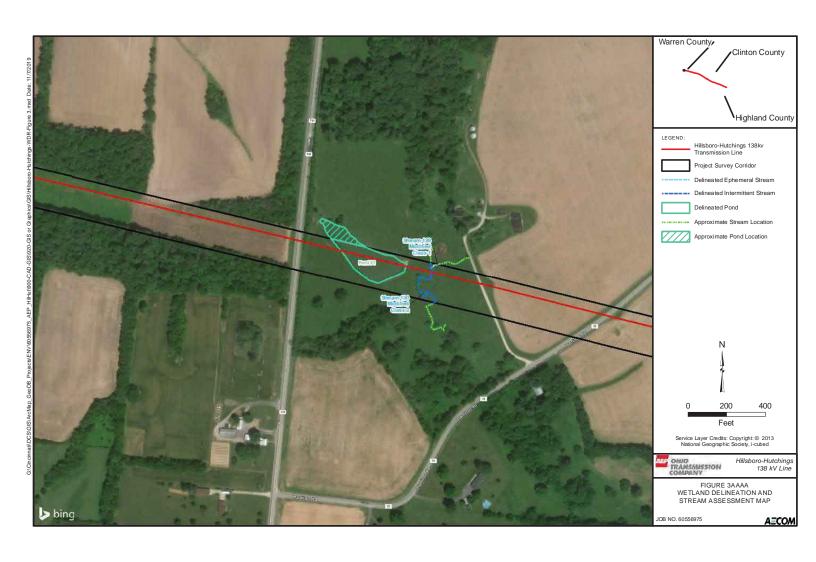


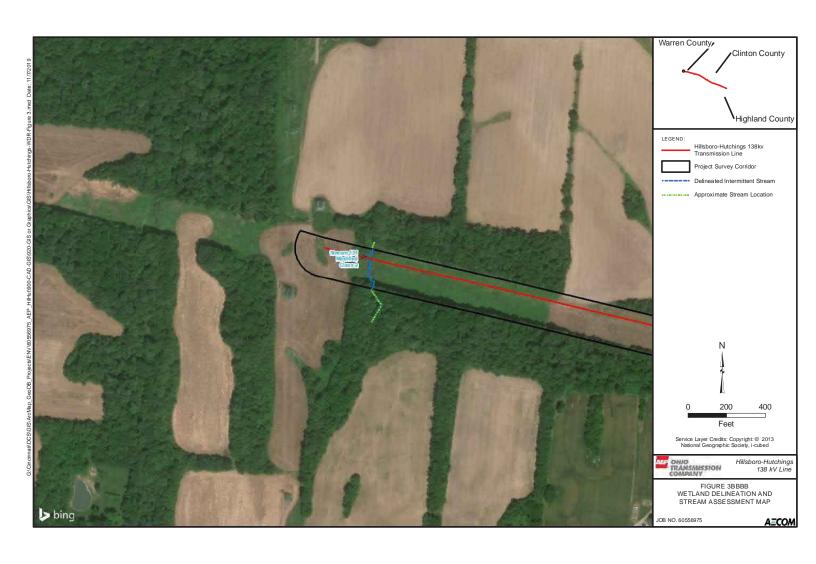


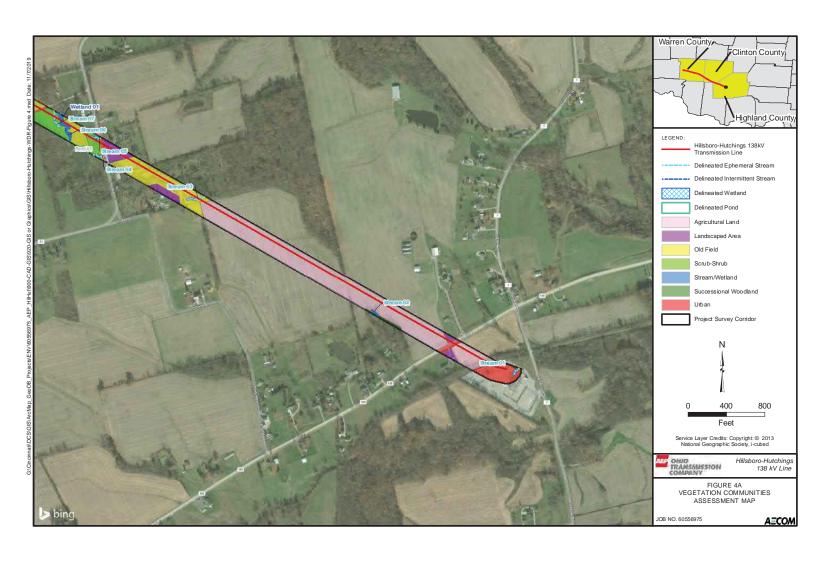


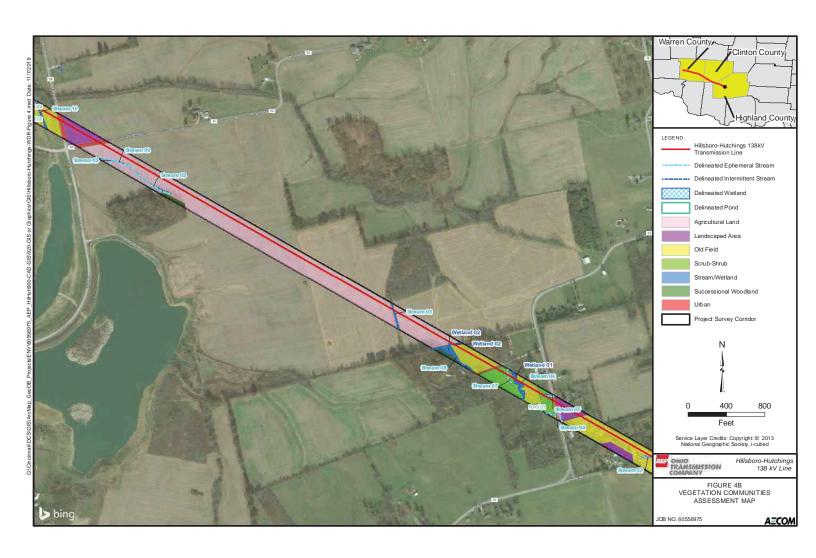


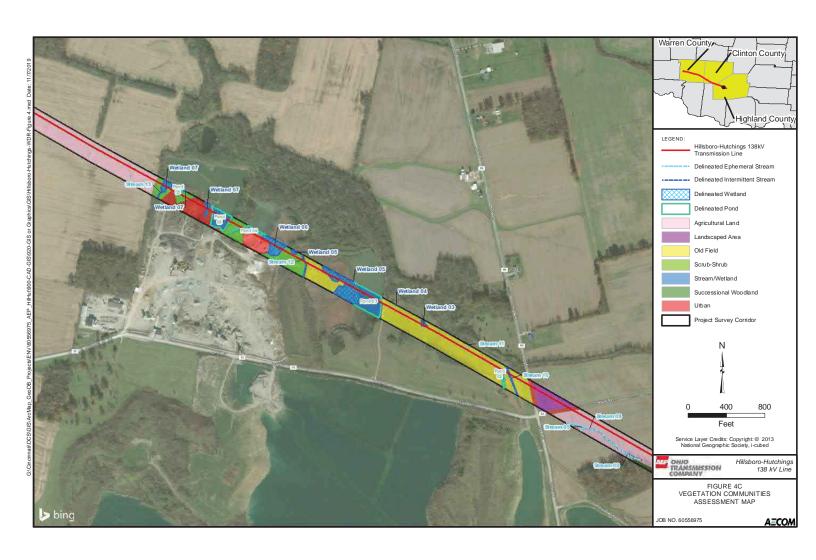


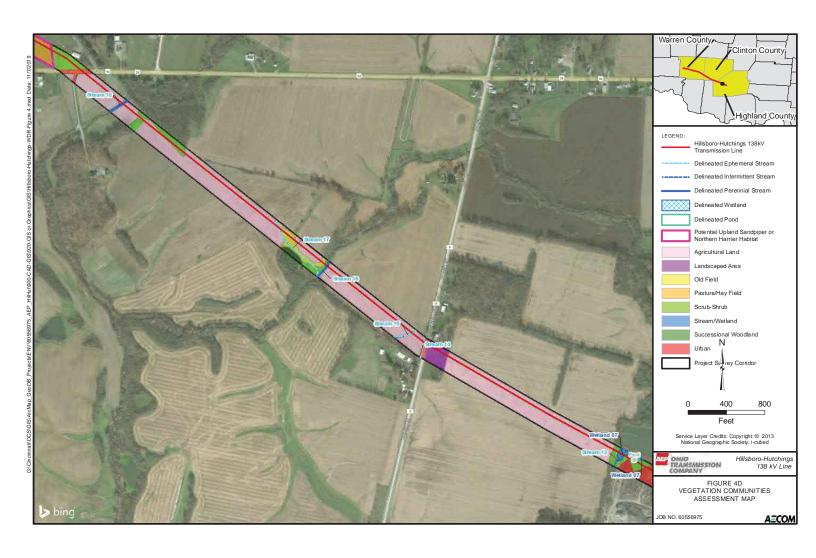


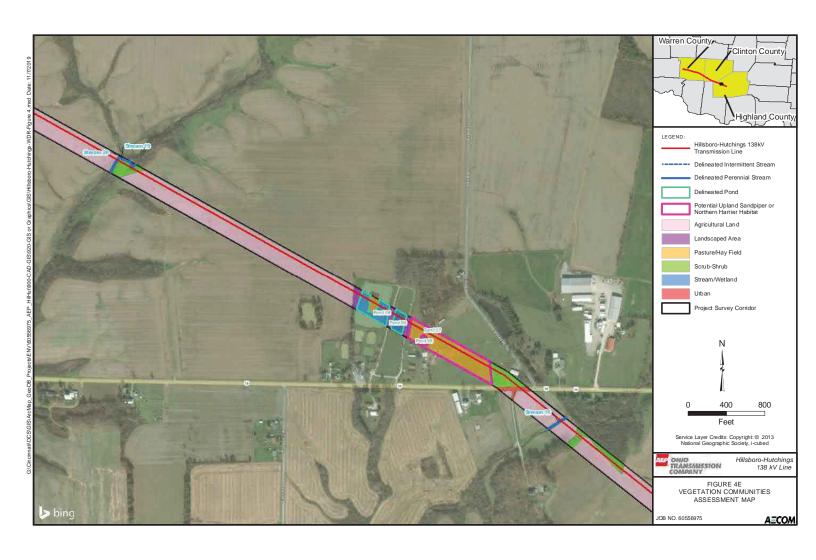


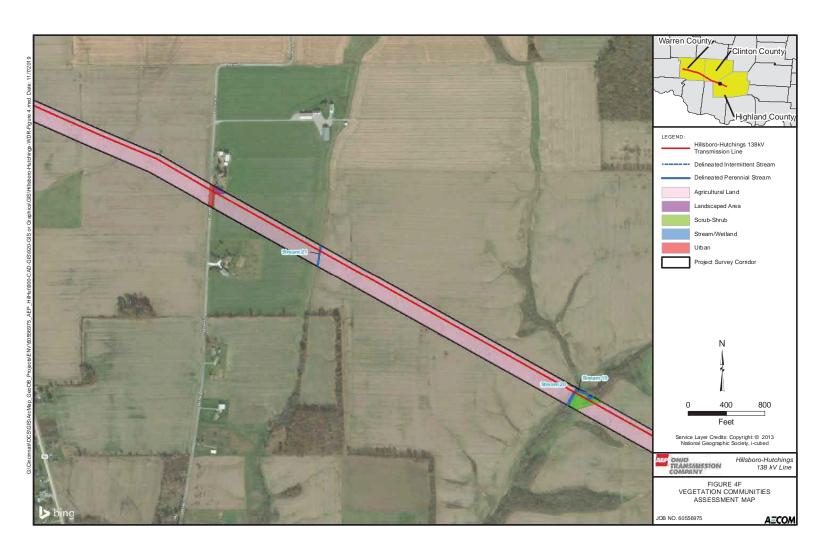


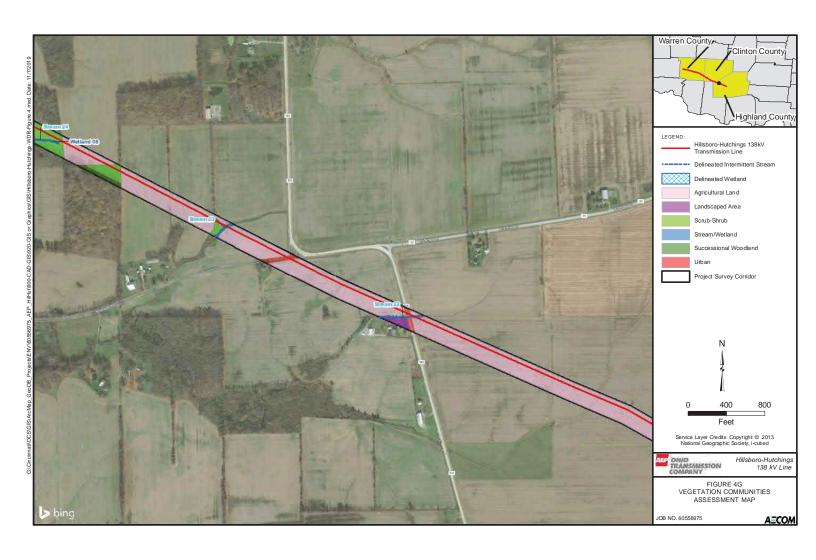


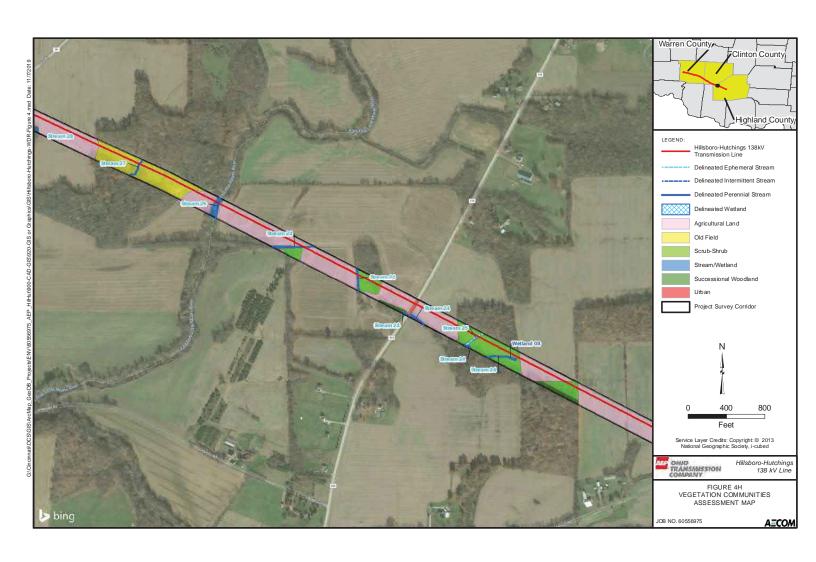


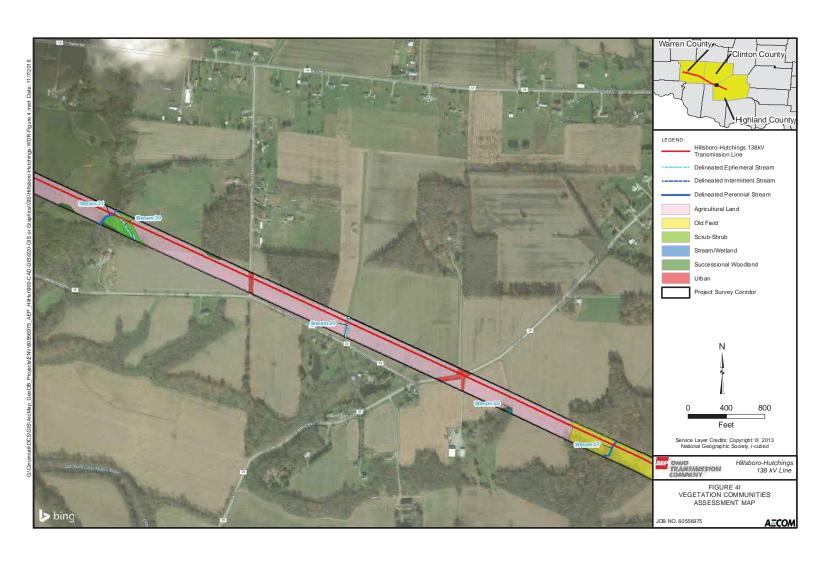


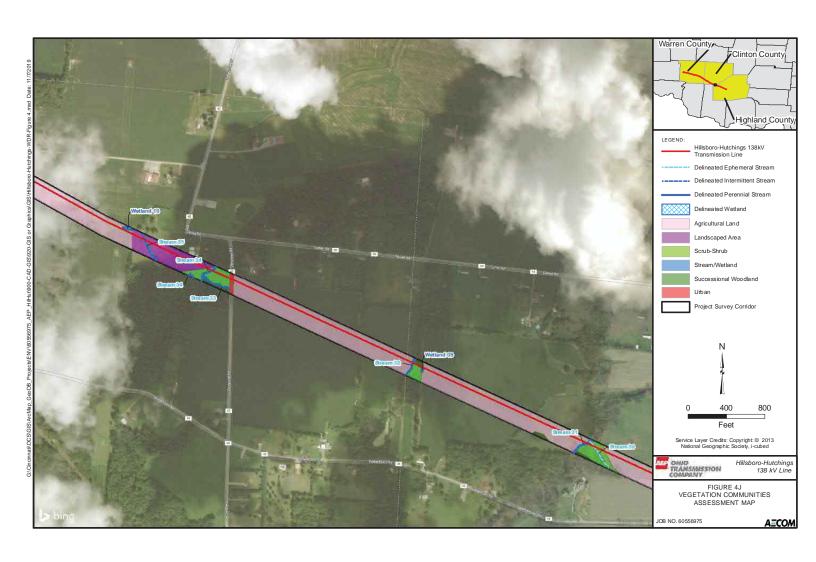


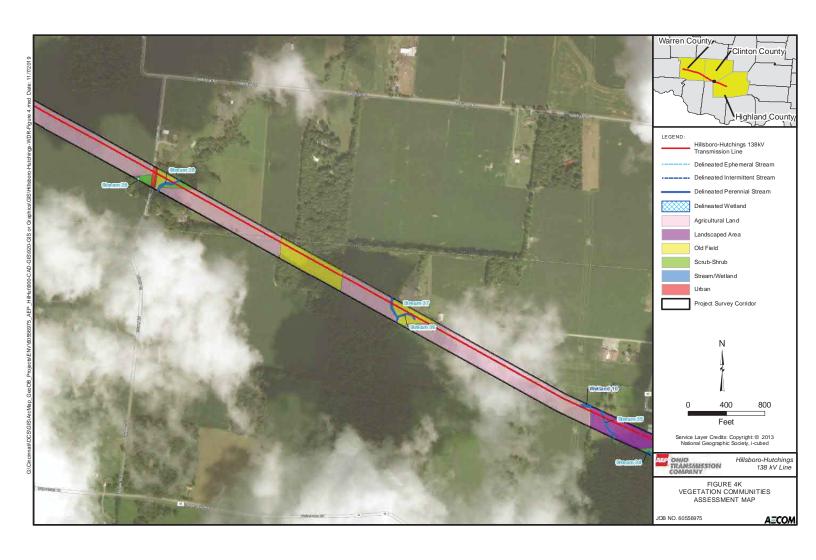




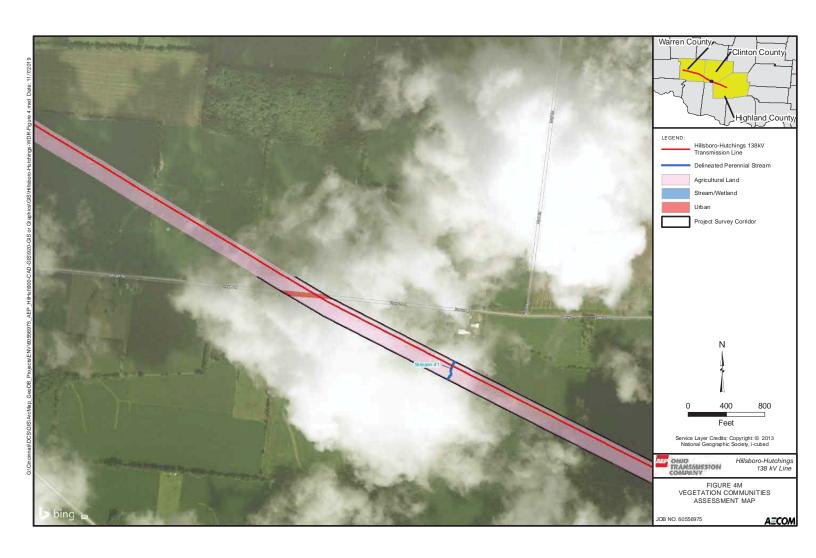


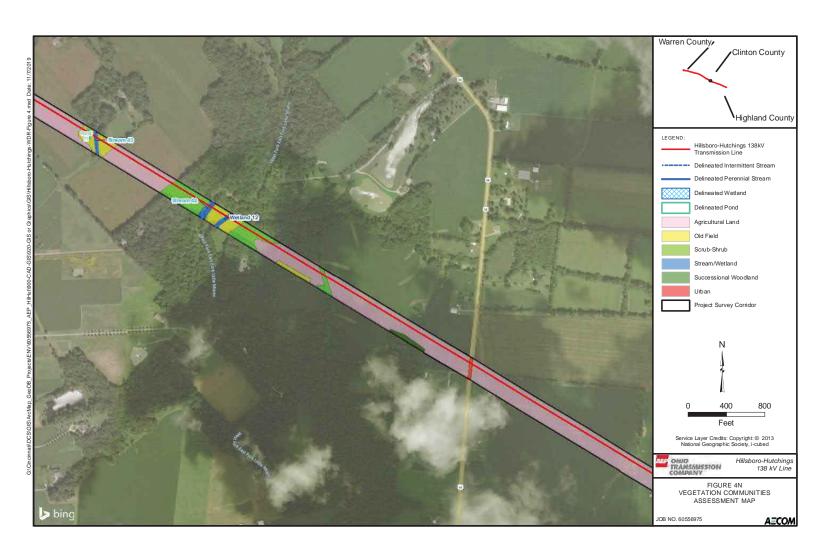


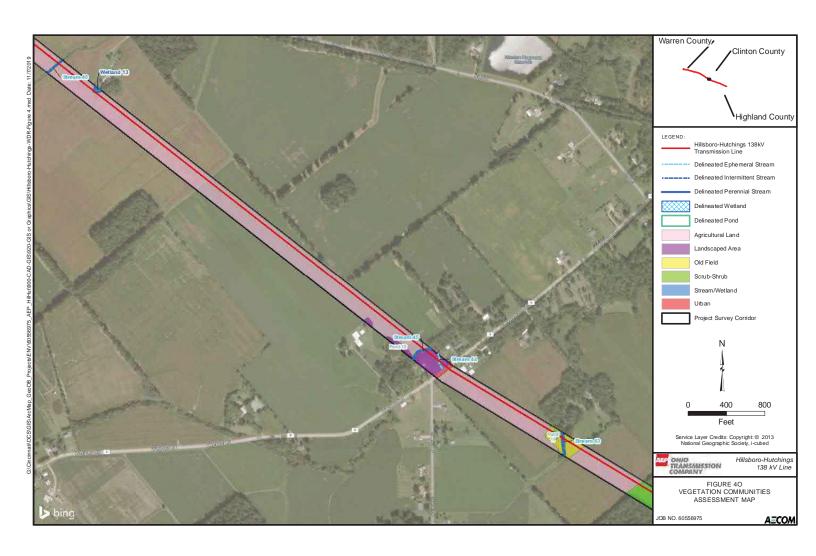


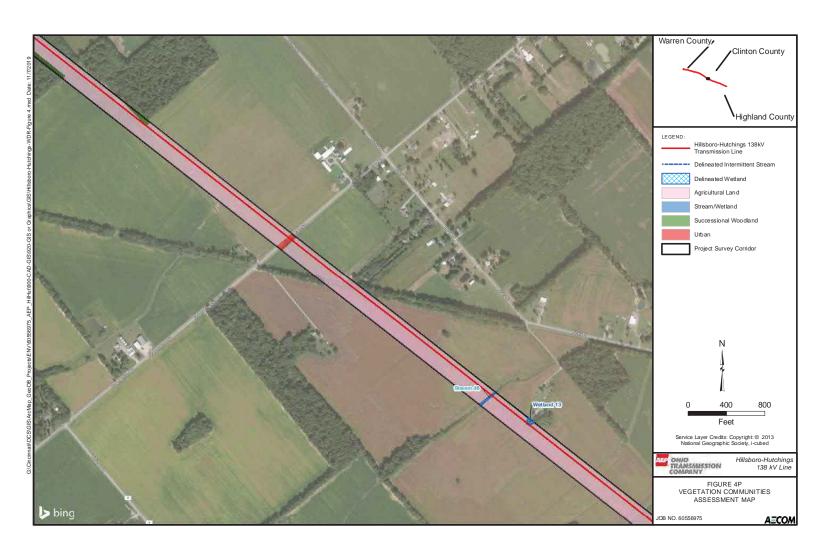


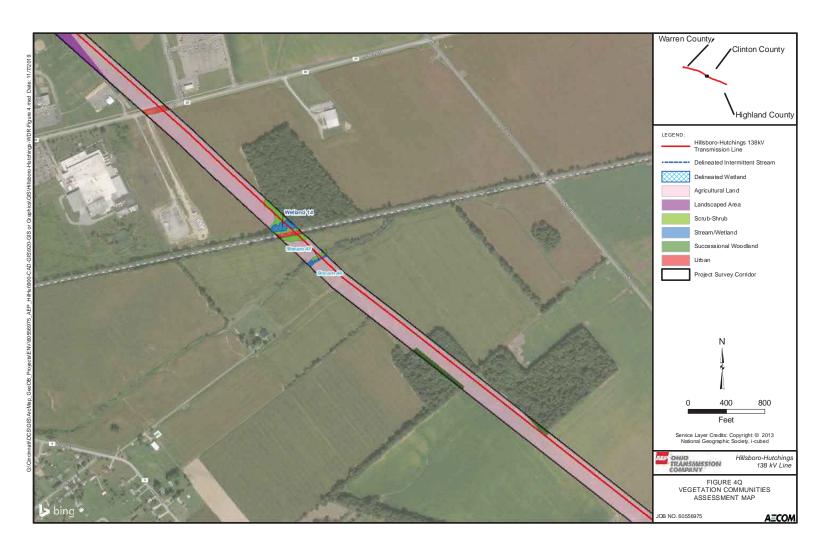


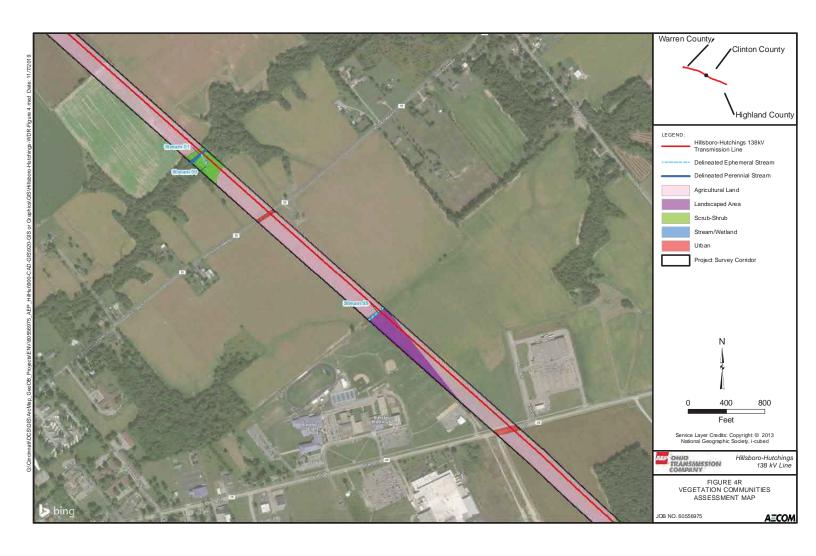


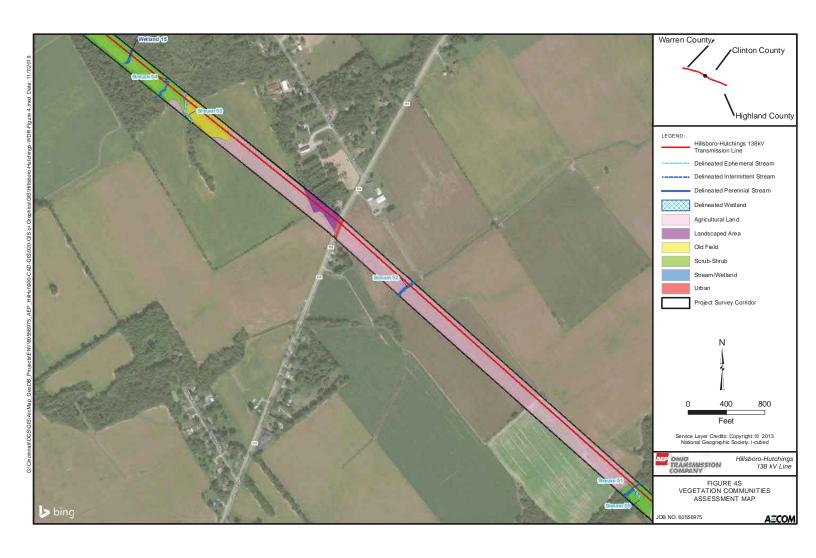


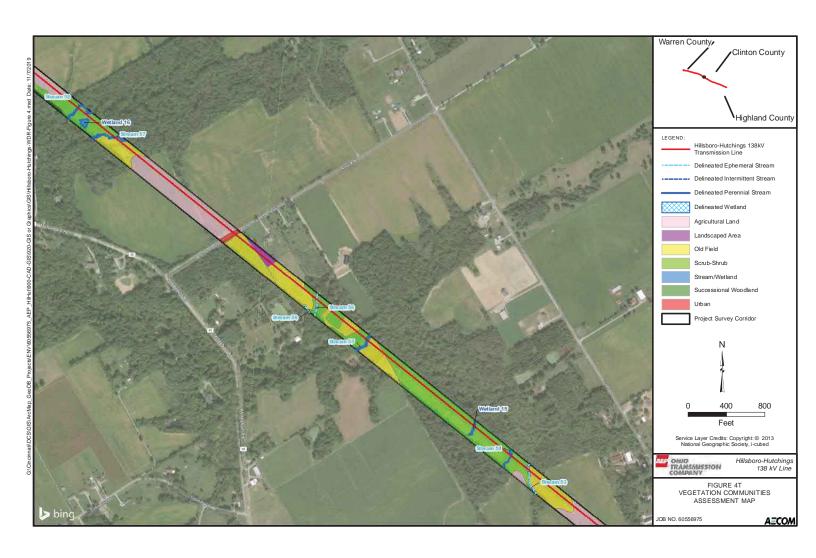


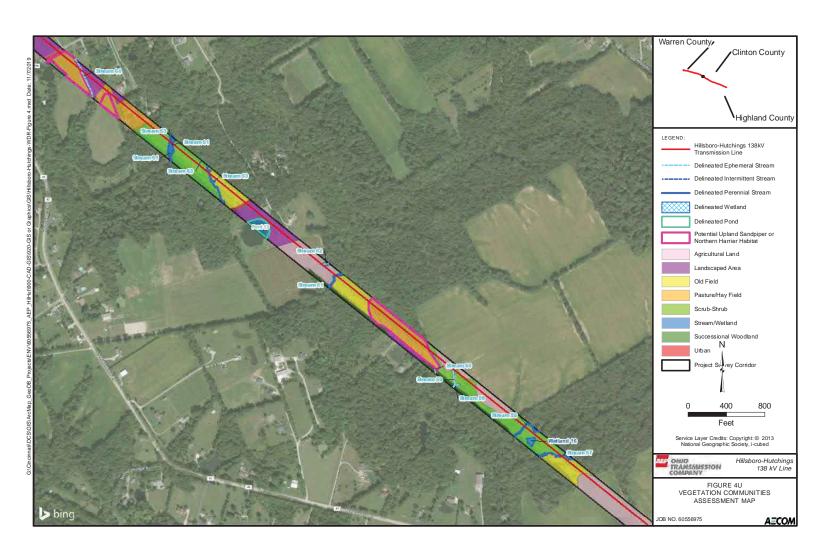


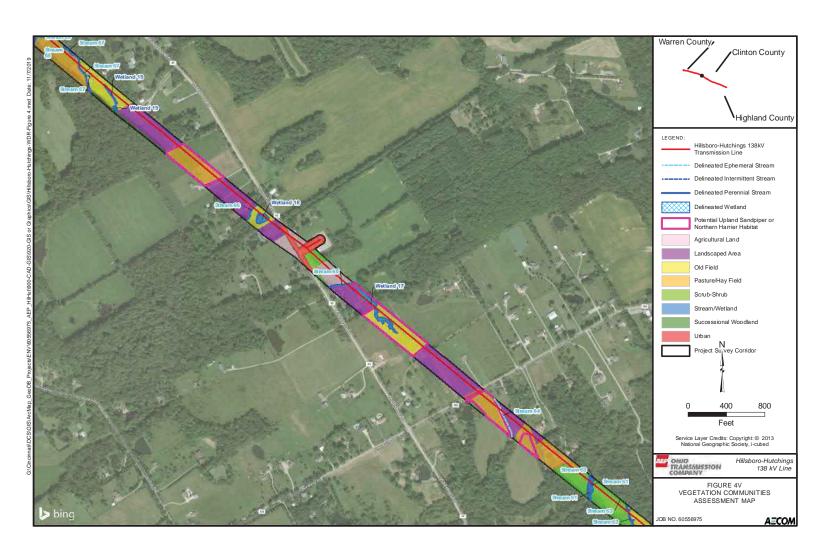


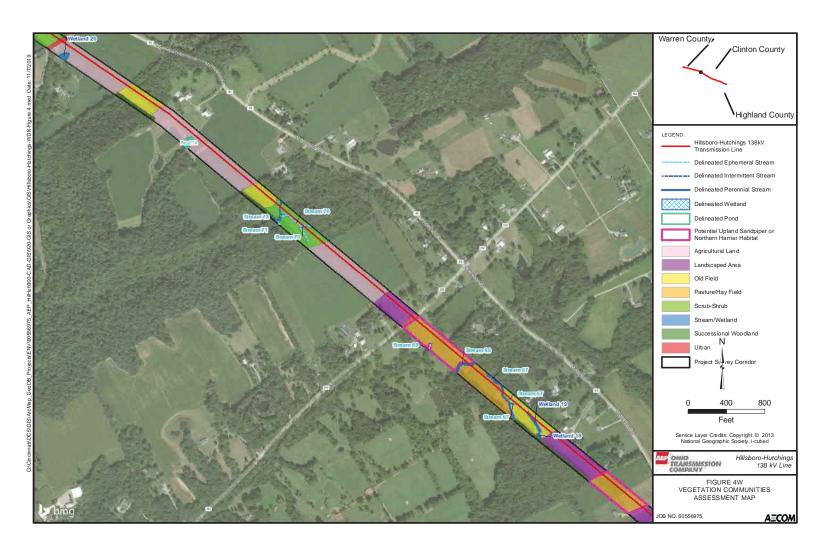


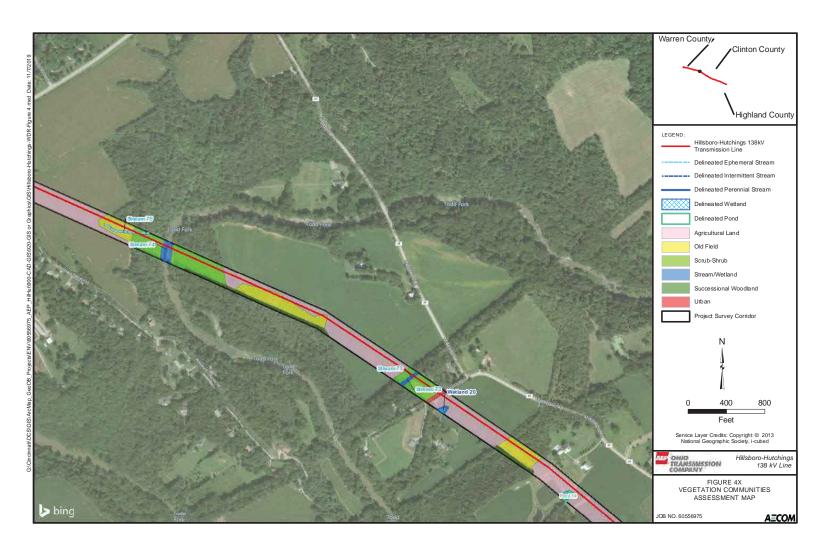


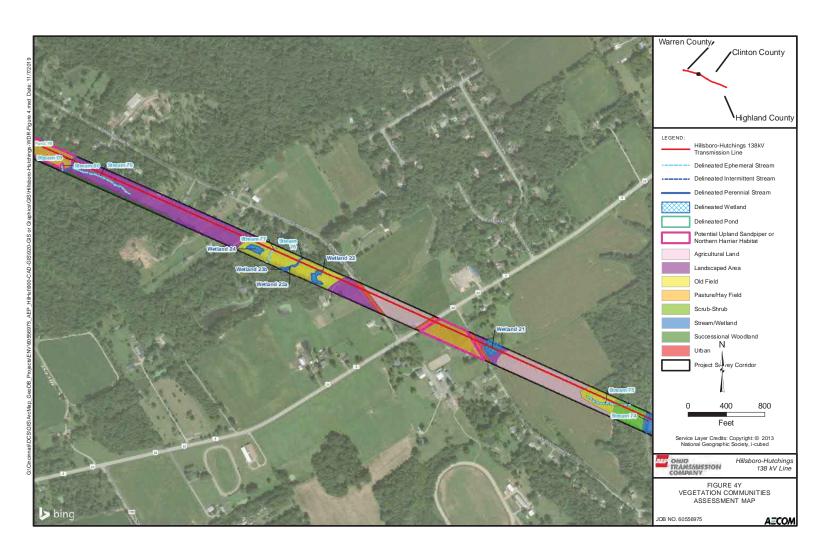


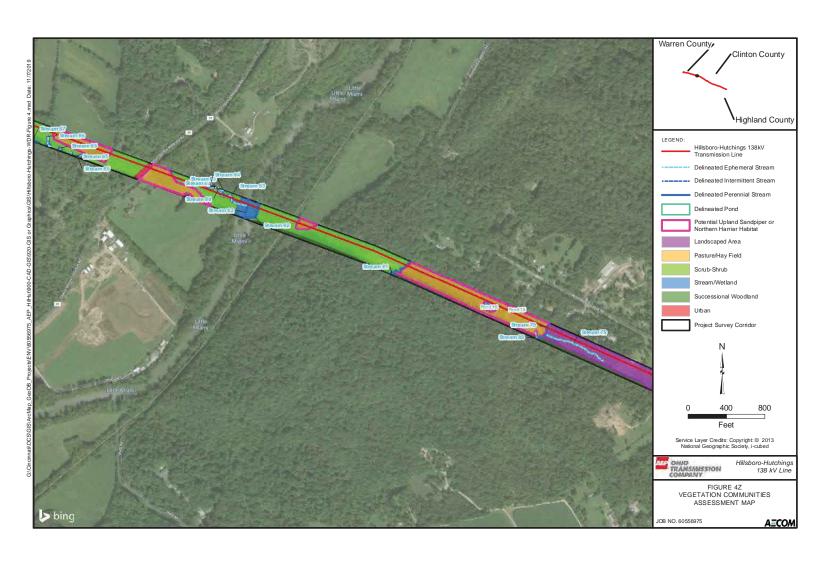


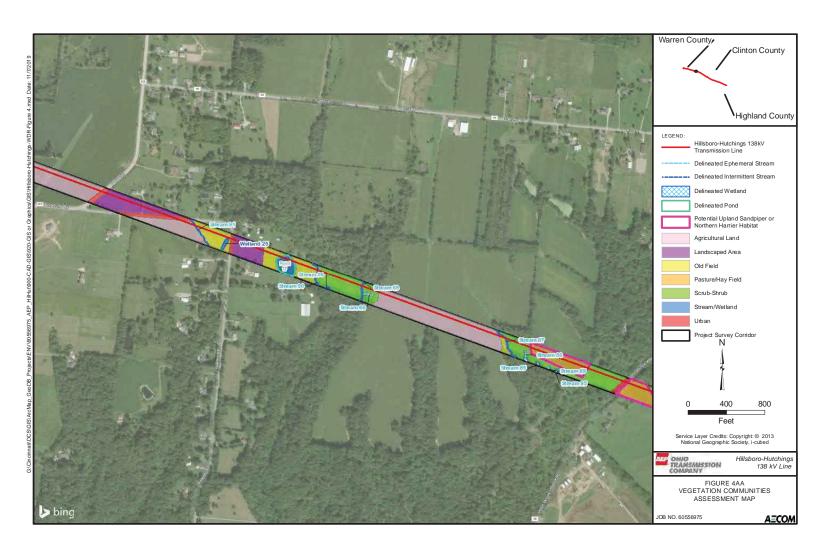


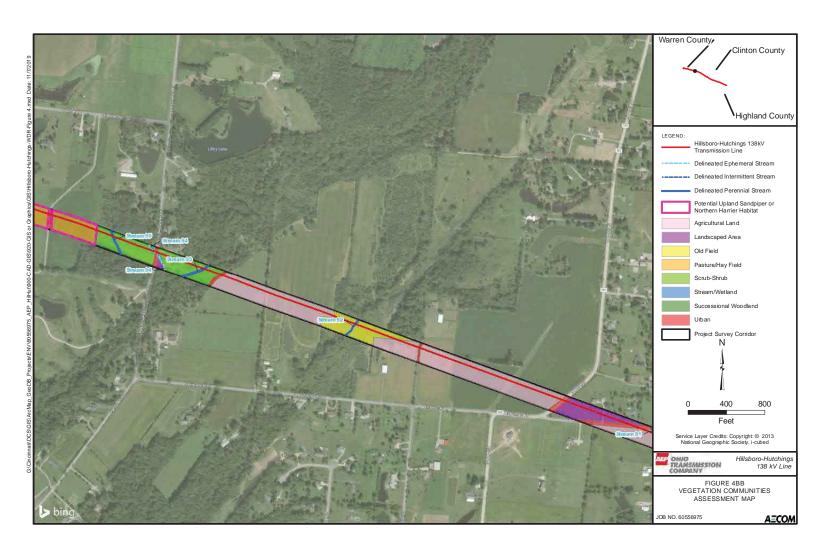


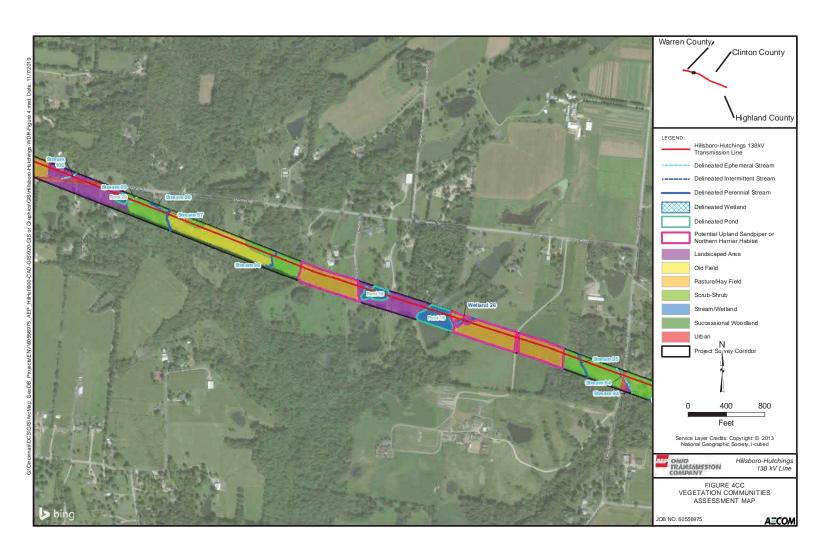


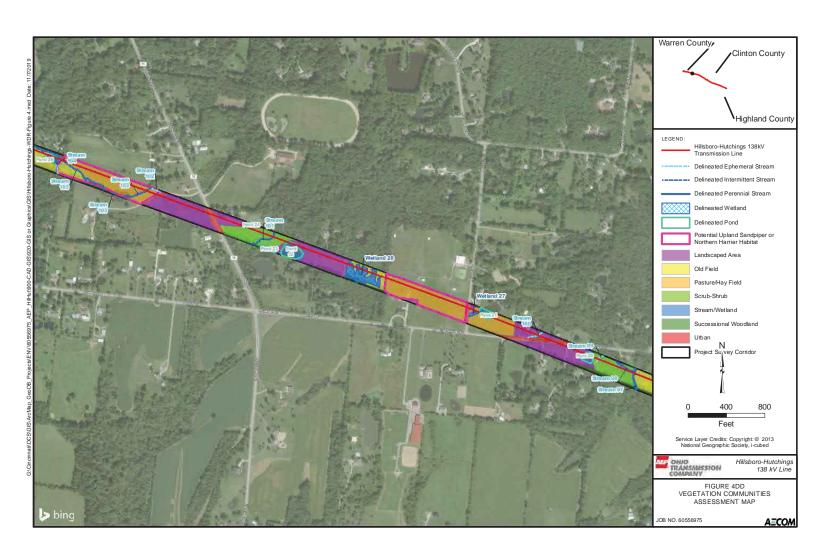


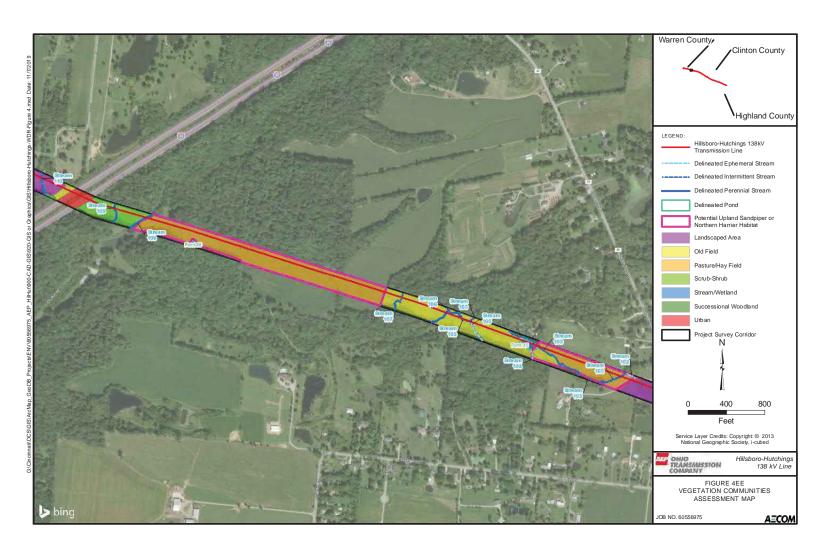


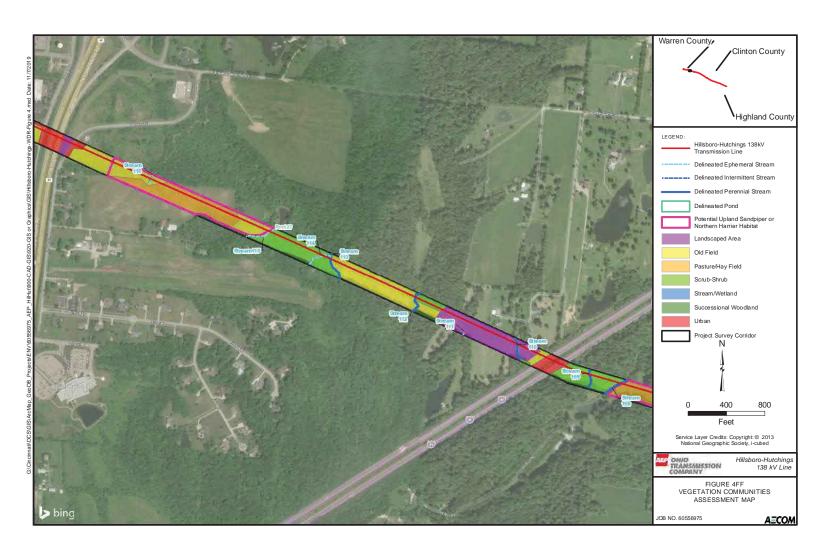


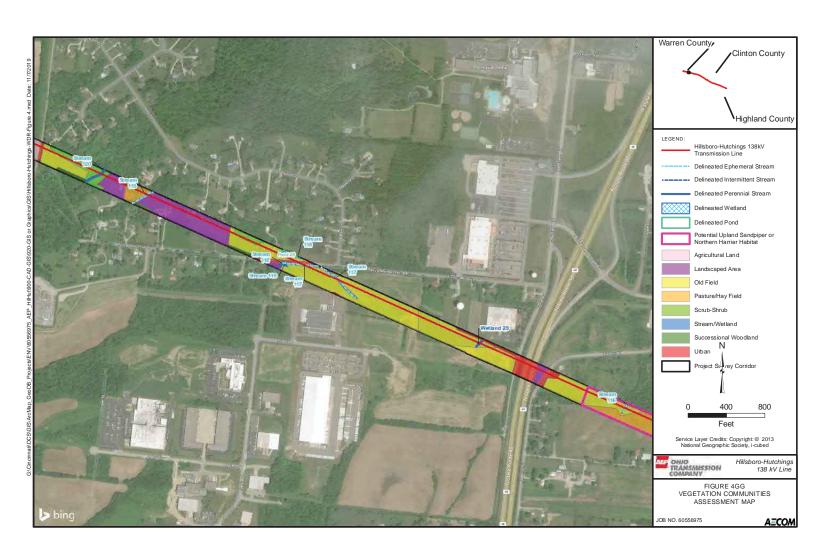


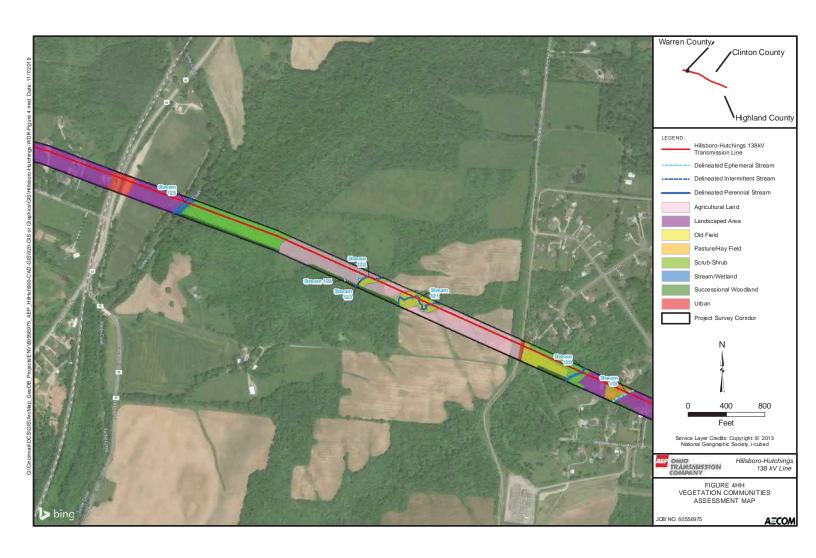


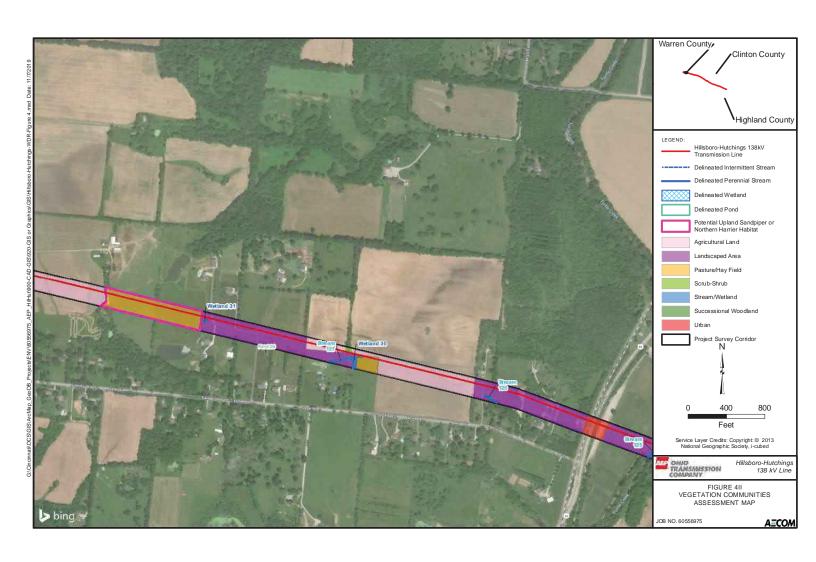


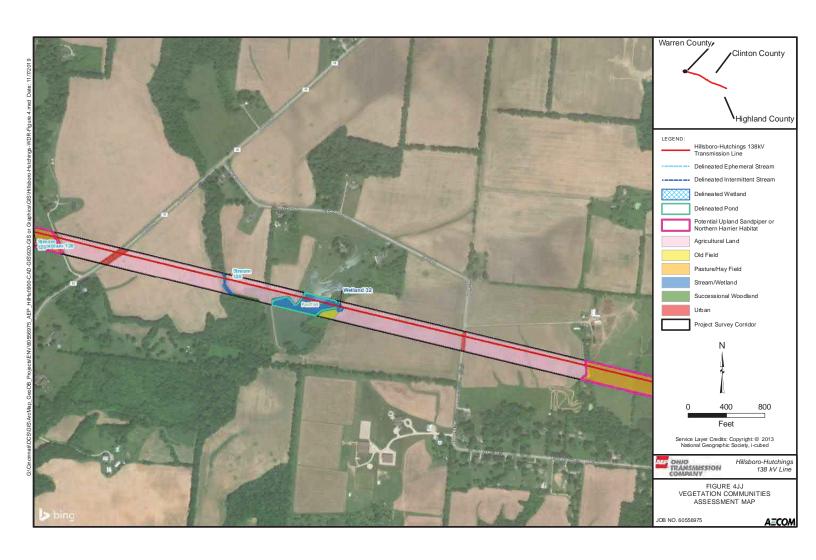


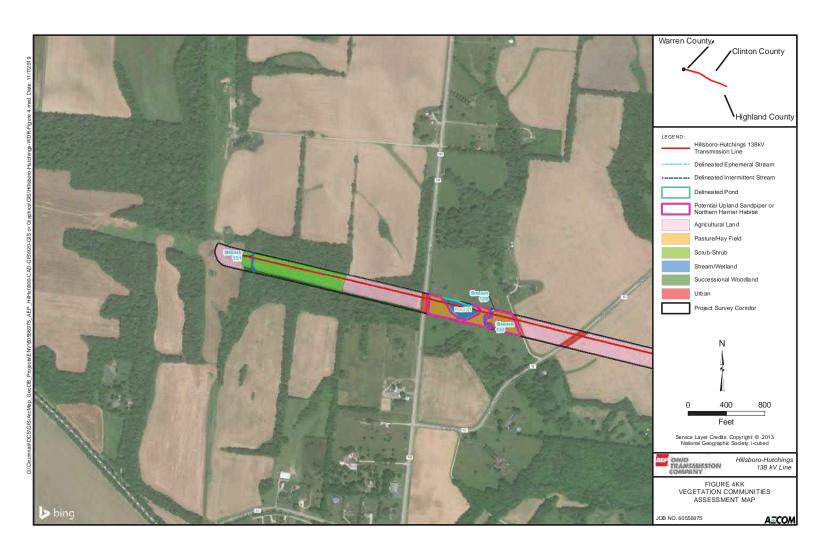














#### APPENDIX A

U.S. ARMY CORPS OF ENGINEERS WETLAND & UPLAND FORMS

Project/Site Hillsboro-Hutchings 138 k	·V	City	y/County	Highland Co	ounty Sampling Date: 06-Dec-17
Applicant/Owner AEP				State:	Sampling Point: w-aeh-120617-02
Investigator(s) JTT, AEH		S	ection, Tow	nship, Range:	: T R
Landform (hillslope, terrace, etc.) Flat				Local relief (d	concave, convex, none concave
Slope:0.0% /0.0_ ° Lat.:	30 18082534		Long ·	-83.6944734	
				-03.0744734	NWI classification N/A
Soil Map Unit Nam <u>Clermont silt lo</u> Are climatic/hydrologic conditions on the		V (	No O	(If no. e)	xplain in Remarks.)
Are Vegetation , Soil		significantly dist		•	ormal Circumstances" present? Yes  No
	_				
Are Vegetation, Soil  SUMMARY OF FINDINGS - A	—	naturally proble			ns, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes   No				
Hydric Soil Present?	Yes ● No ○			ne Sampled	
Wetland Hydrology Present?	Yes ● No ○		Area	l in a Wetland	Yes ● No ○
Remarks:					
pem fringe wetland running along	hh-aeh-120617-07				
peni milige menana raminig aleng	doi: 120017 07				
<b>VEGETATION</b> - Use scie	ntific names of pla	nts.	Dominan t		
- (Dlot size)	\	Absolut	Species?	Indicato	Dominance Test workshee
(Plot size:		<u>e</u>	Rel Strat	r	Number of Dominant Species
1 2		0[ 0	0.0%		That are OBL, FACW, or FAC:3 (A)
3		r	0.0%		Total Number of Dominant
4		_ [	0.0%		Species Across All Strata:3(B)
5			0.0%		Percent of dominant Species That Are OBL FACW, or 100.0% (A/B)
			= Total Cov	er	That Are OBL, FACW, or
_Sapling/Shrub Stratu (Plot size:	)	_			Prevalence Index workshee
1		0_ [	0.0%		Total % Cover of: Multiply by:
2		r	0.0%		OBL species <u>35</u> x 1 = <u>35</u>
3		. [	0.0%		FACW species $70$ $\times 2 = 140$ FAC species $0$ $\times 3 = 0$
4		0[	0.0%		
5	1		= Total Cov	er	FACU species $5$ $x = 20$ UPL species $0$ $x = 0$
Herb Stratu (Plot size:	)		_		
			13.6%	OBL	Column Totals:(A)
2. Phalaris arundinacea			✓ 45.5% ✓ 18.2%	FACW FACW	Prevalence Index = B/A = 1.773
. Calantina atmostina na			✓ 18.2% ✓ 18.2%	OBL	Hydrophytic Vegetation Indicato
1.		[	4.5%	FACU	1 - Rapid Test for Hydrophytic Vegetati
6.			0.0%		2 - Dominance Test is > 50
7			0.0%		✓ 3 - Prevalence Index is ≤3. 1
			0.0%		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate
9.			0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Expla
10		0_ [	0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology
_Woody Vine Stratu (Plot size:	)	110 =	= Total Cov	ei	must
1		0[	0.0%		
2		0[	0.0%		Hydrophyti c
		=	= Total Cov	er	Vegetation Yes <b>●</b> No ○
					1
Remarks: (Include photo numbers	here or on a separate	sheet.)			
mixed veg					

SOIL Sampling Point: w-aeh-120617-02 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indic Matrix **Redox Features** Depth (inches Color (moist Color (moist % Tvpe 1 Loc<sup>2</sup> Texture 0-12 10YR 4/4 85 2.5YR 15 С Μ Silty Clay <sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 4ocation: PL=Pore Lining. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils <sup>3</sup> Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A1 Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7 Black Histic (A3) Stripped Matrix (S6) ☐ Hydrogen Sulfide (A4) ☐ Iron Manganese Masses (F1 Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF1 Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remark Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation Sandy Muck Mineral (S1) Redox Depressions (F8) and 5 cm Mucky Peat or Peat (S3) wetland hydrology must be Restrictive Layer (if observed No  $\bigcirc$ Hydric Soil Present Yes Depth (inches):\_ Remarks: **HYDROLOGY** Wetland Hydrology Indicator Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two requir ✓ Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aquatic Fauna (B13) ✓ Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Geomorphic Position (D2) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8 Other (Explain in Remarks) Field Observations: Yes No O Depth (inches): 1 Surface Water Present? Yes No O Water Table Present? 12 Depth (inches): \_ Yes No O Wetland Hydrology Presen Saturation Present? Yes No O Depth (inches): \_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site Hillsboro-Hutchings 138kV		City	/County	Highland Co	unty Sampling Date: 06-Dec-17
Applicant/Owner _AEP				State:	OH Sampling Point: w-aeh-120617-01
Investigator(s) _JTT, AEH		Se	ection, Tov	vnship, Range	: T R
Landform (hillslope, terrace, etc.) Swale					concave, convex, none concave
Slope: 0.0% / 0.0 ° Lat.:	20 19169297		Long:	-83.696944	
	-				NWI classification NA
Soil Map Unit Nam <u>Westboro-Scha</u> Are climatic/hydrologic conditions on the		6	No O		xplain in Remarks.)
Are Vegetation , Soil	,	significantly dist			
					oma choumstandes produiti
Are Vegetation, Soil  SUMMARY OF FUNDINGS - A		naturally probler		•	ns, transects, important features, etc.
	Yes No O	- Ting samp	<u>g po</u> .		ins, transosts, important roatal es, etc.
Hydrophytic Vegetation Present?	Yes No No		Is th	ne Sampled	
Hydric Soil Present?			Area	a ain a Watlan	Yes ● No ○
Wetland Hydrology Present?	Yes ● No ○				
Remarks:					
PEM wetland at end of hh-aeh-120	)617-05; cattail dominai	nt			
<b>VEGETATION</b> - Use scie	ntific names of pla	nts.	Dominan	ı	
		Absolut	t Species?	Indicato	Dominance Test workshee
(Plot size:	)		Rel Strat		Number of Dominant Species
1			0.0%		That are OBL, FACW, or FAC:3 (A)
2		Г	0.0%		Total Number of Dominant
3		Г	0.0%_		Species Across All Strata:3 (B)
4		_	0.0%		Percent of dominant Species
5			0.0%		That Are OBL, FACW, or
_Sapling/Shrub Stratu (Plot size:	)	=	Total Cov	rei	Prevalence Index workshee
1	,	5	<b>1</b> 100.0%	6 OBL	Total % Cover of: Multiply by:
2			0.0%	O OBL	OBL species85 x 1 =85
3		_	0.0%		FACW species 10 x 2 = 20
4.		ο Γ	0.0%		FAC species $0 \times 3 = 0$
5		_ 0_ [	0.0%		FACU species 2 x 4 = 8
_Herb Stratu(Plot size:	)	5 =	Total Cov	ver	UPL species 0 x 5 = 0
1 Typha angustifolia		60	<b>✓</b> 65.2%	OBL	Column Totals:97 (A)113 (B)
2 1			21.7%		
3 Cyperus esculentus		10	10.9%		Prevalence Index = B/A =1.165_
4 Solidago canadensis		2	2.2%	FACU	Hydrophytic Vegetation Indicato
5.————		0	0.0%		1 - Rapid Test for Hydrophytic Vegetati
6.		0	0.0%		<ul> <li>2 - Dominance Test is &gt; 50</li> <li>3 - Prevalence Index is ≤3.</li> </ul>
7			0.0%		<b>1</b>
8.			0.0%_		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate
9.			0.0%_		☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Expla
					1 Indicators of hydric soil and wetland hydrology
_Woody Vine Stratu (Plot size:	)	92 =	Total Cov	er er	must
1		_ 0_ [	0.0%		
2		0	0.0%		Hydrophyti c
		=	Total Cov	ver	C Vegetation Yes ● No ○
					l .
Remarks: (Include photo numbers	here or on a separate :	sheet.)			

SOIL Sampling Point: w-aeh-120617-01 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indic Matrix **Redox Features** Depth (inches Color (moist Color (moist % Type 1 Loc<sup>2</sup> Texture 0-12 10YR 4/1 95 10YR 3/6 5 С PL Silty Clay <sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 4ocation: PL=Pore Lining. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils <sup>3</sup> Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A1 Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7 Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) ☐ Iron Manganese Masses (F1 Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF1 Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remark ✓ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation Sandy Muck Mineral (S1) Redox Depressions (F8) and 5 cm Mucky Peat or Peat (S3) wetland hydrology must be Restrictive Layer (if observed No  $\bigcirc$ Hydric Soil Present Yes Depth (inches):\_ Remarks: **HYDROLOGY** Wetland Hydrology Indicator Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two requir ✓ Surface Water (A1) ✓ Water-Stained Leaves (B9) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aquatic Fauna (B13) ✓ Drainage Patterns (B10) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Crayfish Burrows (C8) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Geomorphic Position (D2) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8 Other (Explain in Remarks) Field Observations: Yes No O Surface Water Present? Depth (inches): Yes No O Water Table Present? 10 Depth (inches): \_ Yes No O Wetland Hydrology Presen Saturation Present? Yes No O Depth (inches): \_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: Hillsboro-Hutchings 138kV	City/County: Highl	land County Sampling Date: 07-Dec-17
Applicant/Owner: AEP		State: OH Sampling Point: w-aeh-120717-05
		Range: S T R
Landform (hillslope, terrace, etc.): Footslope		relief (concave, convex, none): tussocks
<del></del>		-
-	Long.: -83.71	
Soil Map Unit Name: Pits, quarry (Pq)		NWI classification: NA
Are climatic/hydrologic conditions on the site typical for this time of y	<sub>ear?</sub> Yes ♥ No ♥ (II	f no, explain in Remarks.)
		Are "Normal Circumstances" present? Yes   No
		(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	ving sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes   No		
Hydric Soil Present? Yes   No	Is the Sam within a W	
Wetland Hydrology Present? Yes   No		162 0 140 0
Remarks:	I	
<b>VEGETATION</b> - Use scientific names of plan		
	Absolute Rel.Strat. Indi	icator Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:)		Number of Dominant Species
1	0 0.0%	That are OBL, FACW, or FAC: 3 (A)
2		Total Number of Dominant
3	0 0.0%	Species Across All Strata: 3 (B)
4	0 0.0%	
5	0 0.0%	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0 = Total Cover	mat Ale OBL, FACW, OF FAC.
		Prevalence Index worksheet:
1	0 0.0%	Total % Cover of: Multiply by:
2	0 0.0%	OBL species <u>85</u> x 1 = <u>85</u>
3	0 0.0%	FACW species 0 x 2 = 0
4	0 0.0%	FAC species <u>30</u> x 3 = <u>90</u>
5	0 0.0%	FACU species 0 x 4 = 0
Herb Stratum (Plot size:)	= Total Cover	UPL species x 5 =0
1. Typha angustifolia	35 <b>✓</b> 30.4% OBL	Column Totals: <u>115</u> (A) <u>175</u> (B)
2. Juncus tenuis	30 <b>✓</b> 26.1% FAC	Prevalence Index = B/A =1.522_
3. Carex frankii	30 <b>✓</b> 26.1% OBL	L
4. Scirpus atrovirens	20 17.4% OBL	Hydrophytic Vegetation Indicators:
5	0 0.0%	☐ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is > 50%
6	0 0.0%	✓ 2 - Dominance Test is > 50%  ✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7	0 0.0%	
8	0 0.0%	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9.	0 0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10	0 0.0%	
	115 = Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	
2	0 0.0%	Hydrophytic
۷	0 = Total Cover	Vegetation Present?  Yes  No
		Tresent.
Domarke: (Include phote numbers here or an a conserte sh	noot )	
Remarks: (Include photo numbers here or on a separate sh	ieet.)	

SOIL Sampling Point: w-aeh-120717-05

Type:
2-10 10YR 6/8 80 5YR 5/8 20 C M Silty Clay  Pype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Pydric Soil Indicators:  Histor Epipedon (A2)  Black Histic (A3)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  2 cm Muck (A10)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Sem Mucky Peat or Peat (S3)  Estrictive Layer (if observed):  Type:  Depth (inches):  Hydric Soil Present?  We Silty Clay  Alocation: PL=Pore Lining, M=Matrix.  Alocation: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils  Indicators for Problematic Hydric Soils  Coast Prairie Redox (A16)  Dark Surface (S7)  Iron Manganese Masses (F12)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present?  Yes No
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ydric Soil Indicators:  Histosol (A1)  Sandy Gleyed Matrix (S4)  Histic Epipedon (A2)  Black Histic (A3)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Depleted Depleted Depleted Depleted Dark Surface (F7)  Sandy Muck Mineral (S1)  Sextrictive Layer (if observed):  Type:  Depth (inches):  Hydric Soil Present?  Accation: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils    Cast Prairie Redox (A16)
Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stripped Matrix (S6)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Sem Mucky Peat or Peat (S3)  Depth (inches):  Depth (inches):  Depth (inches):  Histic Soil Indicators for Problematic Hydric Soils  Coast Prairie Redox (A16)  Dark Surface (S7)  Iron Manganese Masses (F12)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Pepleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Muck Mineral (S1) Redox Depressions (F8)  Depth (inches):  Hydric Soil Present? Yes No
Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A12)  Sandy Muck Mineral (S1)  Semonth Surface (F6)  Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Semonth Surface (A12)  Semonth Surface (A12)  Semonth Surface (A13)  Depleted Dark Surface (F8)  Semonth Surface (A13)  Type:  Depth (inches):  Depth (inches):  Hydric Soil Present?  Yes  No
Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Sandy Muck Mineral (S1)  Setrictive Layer (if observed):  Type:  Depth (inches):  Dark Surface (A16)  Dark Surface (S7)  Iron Manganese Masses (F12)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Type:  Depth (inches):  Hydric Soil Present?  Yes  No
Black Histic (A3)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Layers (A5)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Sandy Muck Mineral (S1)  Sandy Muck Mineral (S1)  Redox Depressions (F8)  Dark Surface (F7)  Iron Manganese Masses (F12)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Pestrictive Layer (if observed):  Type:  Depth (inches):  Hydric Soil Present? Yes No
Hydrogen Sulfide (A4)  Stratified Layers (A5)  2 cm Muck (A10)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Sandy Muck Mineral (S1)  Eestrictive Layer (if observed):  Type:  Iron Manganese Masses (F12)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Stratified Layers (A5)  Loamy Gleyed Matrix (F2)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Sandy Muck Mineral (S1)  Setrictive Layer (if observed):  Type:  Depth (inches):  Loamy Gleyed Matrix (F2)  Depleted Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present?  Yes No
Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Sandy Muck Mineral (S1)  Setrictive Layer (if observed):  Type:  Depth (inches):  Depleted Matrix (F2)  Depleted Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present? Yes ● No
Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Thick Dark Surface (A12)  Depleted Dark Surface (F7)  Sandy Muck Mineral (S1)  Redox Depressions (F8)  Pedictive Layer (if observed):  Type:  Depth (inches):  Hydric Soil Present?  Yes  No
Thick Dark Surface (A12)  Sandy Muck Mineral (S1)  Sem Mucky Peat or Peat (S3)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Type:  Depth (inches):  Hydric Soil Present?  Yes  No
Sandy Muck Milletal (S1)  Set Mucky Peat or Peat (S3)  Estrictive Layer (if observed):  Type:  Depth (inches):  Depth (inches):  Hydric Soil Present? Yes No
5 cm Mucky Peat or Peat (S3)  estrictive Layer (if observed):  Type:  Depth (inches):  Hydric Soil Present? Yes No
Type: Hydric Soil Present? Yes • No
YDROLOGY
• • •
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of tw  Surface Water (A1)  Water-Stained Leaves (B9)  Surface Soil Cracks (B6)
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two secondary Indi
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two surface Water (A1)  Water-Stained Leaves (B9)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  True Aquatic Plants (B14)  Secondary Indicators (minimum of two surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two secondary Indi
rimary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two Secondary Indicators (minimum of two Surface Water (A1)  Water-Stained Leaves (B9)  High Water Table (A2)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Dry Season Water Table (C2)
Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (B9)  High Water Table (A2)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Water Marks (B1)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2)  Secondary Indicators (minimum of two minimum of
Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (B9)  High Water Table (A2)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Water Marks (B1)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2)  Drift Deposits (B3)  Secondary Indicators (minimum of two minimum of two mini
Secondary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Secondary Indicators (minimum of two surfaces (B6)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Image  Stunted or Stressed Plants (D1)  Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)
Secondary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  True Aquatic Plants (B14)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  True Aquatic Plants (B10)  Oxidized Rhizospheres on Living Roots (C3)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Secondary Indicators (minimum of two surface (B6)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Drainage Patterns (B10)  Crayfish Burrows (C8)  Saturation Visible on Aerial Image  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Thin Muck Surface (C7)
Arimary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Driinage Patterns (B10)  Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Secondary Indicators (minimum of two water Material that apply)  Secondary Indicators (minimum of two water Mapple)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (B7)  FAC-Neutral Test (D5)  Inundation Visible on Aerial Imagery (B7)  Secondary Indicators (minimum of two water Mapple)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (B7)  Stunted or Stressed Plants (D1)  FAC-Neutral Test (D5)  FAC-Neutral Test (D5)  ield Observations:
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two water CA1)  Water-Stained Leaves (B9)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  True Aquatic Plants (B14)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Secondary Indicators (minimum of two water Table (C2)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Drainage Patterns (B10)
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two water-Stained Leaves (B9)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Dorinage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Image  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Depth (inches):
✓ Surface Water (A1)  ✓ High Water Table (A2)  ✓ Aquatic Fauna (B13)  ✓ Saturation (A3)  ✓ Water Marks (B1)  ✓ Sediment Deposits (B2)  ✓ Drift Deposits (B3)  ✓ Algal Mat or Crust (B4)  ✓ Iron Deposits (B5)  ✓ Iron Deposits (B5)  ✓ Inundation Visible on Aerial Imagery (B7)  ✓ Sparsely Vegetated Concave Surface (B8)  ✓ Surface Water (A1)  ✓ Water Stained Leaves (B9)  ✓ Aquatic Fauna (B13)  ✓ Drainage Patterns (B10)  ✓ Drainage Patterns (B10)  ✓ Drainage Patterns (B10)  ✓ Crayfish Burrows (C8)  ✓ Crayfish Burrows (C8)  ✓ Saturation Visible on Aerial Imagery (B7)  ✓ Stunted or Stressed Plants (D1)  ✓ FAC-Neutral Test (D5)  ✓ FAC-Neutral Test (D5)

Project/Site: Hillsboro-Hutchings 138kV		City	/County: Highland C	Sounty Sampling Date: 07-Dec-17
Applicant/Owner: AEP			State	: OH Sampling Point: w-aeh-120717-04
				e: S T R
Landform (hillslope, terrace, etc.): Flat				(concave, convex, none): flat
				· _ · · · · _ · · · · · · · · · · · · ·
Slope: 0.0% 0.0 ° Lat.:			Long.: -83.716271	<u> </u>
Soil Map Unit Name: Pits, quarry (Pq	)	6		NWI classification: NA
Are climatic/hydrologic conditions on the	site typical for this time of	<sub>year?</sub> Yes ©	No ○ (If no, e	explain in Remarks.)
Are Vegetation , Soil	, or Hydrology s	significantly dist	urbed? Are "N	lormal Circumstances" present? Yes   No
Are Vegetation , Soil ,		naturally probler	•	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A	<u> </u>	wing samp	ling point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes ● No ○			
Hydric Soil Present?	Yes ● No ○		Is the Sampled within a Wetlan	
Wetland Hydrology Present?	Yes ● No ○			103 0 110 0
Remarks:				
<b>VEGETATION</b> - Use scien	ntific names of plar	nts.	Dominant	
		Absolute	Species? Indicator	Dominance Test worksheet:
	)	% Cover	Cover Status	Number of Dominant Species
1		0	0.0%	That are OBL, FACW, or FAC:1(A)
2		0	0.0%	Total Number of Deminant
3		0	0.0%	Total Number of Dominant Species Across All Strata:1 (B)
4		0	0.0%	
5			0.0%	Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
		0	= Total Cover	That Ale OBL, FACW, OF FAC:
_Sapling/Shrub Stratum (Plot size:	)	_		Prevalence Index worksheet:
1		0	0.0%	Total % Cover of: Multiply by:
2		0	0.0%	OBL species <u>100</u> x 1 = <u>100</u>
3		0	0.0%	FACW species 0 x 2 = 0
4			0.0%	FAC species $0 \times 3 = 0$
5		0	0.0%	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size:	)		= Total Cover	UPL species
1. Typha angustifolia		100	✓ 100.0% OBL	Column Totals:100 (A)100 (B)
2.		0	0.0%	Prevalence Index = B/A = 1.000
3.		0	0.0%	
4.		ο Γ	0.0%	Hydrophytic Vegetation Indicators:
5		0	0.0%	✓ 1 - Rapid Test for Hydrophytic Vegetation
6.		0	0.0%	✓ 2 - Dominance Test is > 50%
7		0	0.0%	3 - Prevalence Index is ≤3.0 <sup>1</sup>
8		0	0.0%	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
		0	0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10		0	0.0%	
Woody Vine Stratu (Plot size:	)	100	= Total Cover	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		0	0.0%	
2		0	0.0%	Hydrophytic
			= Total Cover	Vegetation Present? Yes No O
			- Total COVEL	11000111
Domarko, (Izalista zbt-	hara or en a ser	hoot \		
Remarks: (Include photo numbers	nere or on a separate s	neet.)		
I .				

SOIL Sampling Point: w-aeh-120717-04

Type: C=Concentration, D=Depletion, RM=Reduce  Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  2 cm Muck (A10)	Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	2 Texture Remarks  Silty Clay  Silty Clay  4.ocation: PL=Pore Lining. M=Matrix.  Indicators for Problematic Hydric Soils 3:  Coast Prairie Redox (A16)  Dark Surface (S7)
Type: C=Concentration, D=Depletion, RM=Reduce Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)	ed Matrix, CS=Covered or Coated Sand Grains.  Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	Silty Clay  2-Location: PL=Pore Lining. M=Matrix.  Indicators for Problematic Hydric Soils 3:  Coast Prairie Redox (A16)
Type: C=Concentration, D=Depletion, RM=Reduce    ydric Soil Indicators:   Histosol (A1)   Histic Epipedon (A2)   Black Histic (A3)   Hydrogen Sulfide (A4)   Stratified Layers (A5)	Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	Location: PL=Pore Lining. M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  Coast Prairie Redox (A16)
ydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)	Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	Indicators for Problematic Hydric Soils <sup>3</sup> :  Coast Prairie Redox (A16)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Sandy Redox (S5) Stripped Matrix (S6)	
Hydrogen Sulfide (A4) Stratified Layers (A5)	Stripped Matrix (S6)	Dark Surface (\$7)
Stratified Layers (A5)		
_	Loamy Mucky Mineral (F1)	☐ Iron Manganese Masses (F12)
2 cm Muck (A10)	Loamy Gleyed Matrix (F2)	
_	✓ Depleted Matrix (F3)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Muck Mineral (S1)  5 cm Mucky Peat or Peat (S3)	Redox Depressions (F8)	wetland hydrology must be present, unless disturbed or problematic.
estrictive Layer (if observed):		
Type:		
Depth (inches):		Hydric Soil Present? Yes   No
demarks:		
YPDROLOGY  Vetland Hydrology Indicators:  Primary Indicators (minimum of one is required; ch  ✓ Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)	heck all that apply)  Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils (C6)  This Music Surface (C7)	Geomorphic Position (D2)
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)		
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present?  Yes  No	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches):1	Geomorphic Position (D2)
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present? Yes No	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): 1 Depth (inches): 0	Geomorphic Position (D2)  FAC-Neutral Test (D5)
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present?  Vater Table Present?  aturation Present?  roludes capillary fringe)  Yes No	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): 1 Depth (inches): 0 Depth (inches): 0	Geomorphic Position (D2)  FAC-Neutral Test (D5)  Vetland Hydrology Present?  Yes  No
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  ield Observations:  urface Water Present?  Yes No Algality No Auturation Present?	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): 1 Depth (inches): 0 Depth (inches): 0	Geomorphic Position (D2)  FAC-Neutral Test (D5)  Feland Hydrology Present?  Yes  No

Project/Site: Hillsboro-Hutchings 138kV		Cit	ty/County:	Highland Co	ounty Sampling Date: 07-Dec-17
Applicant/Owner: AEP				State:	OH Sampling Point: W-aeh-120717-03
			Section, Towns		S T R
Landform (hillslope, terrace, etc.): Flat					concave, convex, none): concave
-	00.4040470				
Slope: 0.0% 0.0 ° Lat.:			Long.:8	33.7200707	<u> </u>
Soil Map Unit Name: Pits, quarry (Pg	)	/	<u> </u>		NWI classification: NA
Are climatic/hydrologic conditions on the	site typical for this time of y	<sub>year?</sub> Yes	● No ○	(If no, ex	xplain in Remarks.)
Are Vegetation , Soil		ignificantly dis		Are "No	ormal Circumstances" present? Yes   No
Are Vegetation , Soil .		aturally proble			ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A	ttach site map shov	wing sam	pling point	t locatio	ns, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes ● No ○				
Hydric Soil Present?	Yes ● No ○			Sampled A a Wetland	
Wetland Hydrology Present?	Yes ● No ○			a weariane	··· res 🐸 NO 😊
Remarks:			<u> </u>		
PEM					
I LIVI					
<b>VEGETATION</b> - Use scien	ntific names of plan	its.	Dominant		
		Absolute	<ul><li>Species? -</li><li>Rel.Strat.</li></ul>	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:	)	% Cover	Cover	Status	Number of Dominant Species
1		0	0.0%		That are OBL, FACW, or FAC:3(A)
2			0.0%		
3			0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
4		0_	0.0%		
5			0.0%	0	Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B)
		0	= Total Cover	r	That Are OBL, FACW, or FAC: 100.0% (A/B)
<u>Sapling/Shrub Stratum (</u> Plot size:	)				Prevalence Index worksheet:
1		0	0.0%		Total % Cover of: Multiply by:
2		0	0.0%		OBL species <u>30</u> x 1 = <u>30</u>
3		0	0.0%		FACW species <u>50</u> x 2 = <u>100</u>
4		0	0.0%		FAC species <u>35</u> x 3 = <u>105</u>
5		0	0.0%		FACU species 0 x 4 = 0
_Herb_Stratum_(Plot size:	)	0	= Total Cover	r	UPL species0 x 5 =0
1 Phragmites australis	·	35	<b>✓</b> 30.4%	FACW	Column Totals: <u>115</u> (A) <u>235</u> (B)
2			✓ 30.4%	FAC	
3. Typha angustifolia		30	<b>✓</b> 26.1%	OBL	Prevalence Index = B/A = 2.043
4. Juncus torreyi		15	13.0%	FACW	Hydrophytic Vegetation Indicators:
5		0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.		0	0.0%		2 - Dominance Test is > 50%
7.		0	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		0	0.0%		4 - Morphological Adaptations 1 (Provide supporting
9.		0	0.0%		data in Remarks or on a separate sheet)
10.		0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7-1		115	= Total Cover	r	1 Indicators of hydric soil and wetland hydrology must
	)				be present, unless disturbed or problematic.
1		0	0.0%		Hydrophytic
2		0	0.0%		Vegetation
		0	= Total Cover	r	Present? Yes Vo V
Remarks: (Include photo numbers	here or on a separate sh	neet.)			

SOIL Sampling Point: W-aeh-120717-03

(inches)	Color (r	noist)	%	Color (	Red	%	Tvpe 1	Loc <sup>2</sup>	Texture Remarks
0-12	10YR	7/3	80	2.5YR	5/8	20	C C	M	Silty Clay
12-16	10TK	7/	100	2.511	3/6			IVI	Silty Clay
pe: C=Con	centration, D	=Depletior	ı, RM=Redu	ced Matrix,	CS=Covere	ed or Coate	ed Sand Gra	ins.	Location: PL=Pore Lining. M=Matrix.
dric Soil I	ndicators:								Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (	•				ndy Gleyed		)		Coast Prairie Redox (A16)
	bedon (A2)				ndy Redox				Dark Surface (S7)
Black Hist	Sulfide (A4)				ipped Matri				☐ Iron Manganese Masses (F12)
	Layers (A5)				amy Mucky				Very Shallow Dark Surface (TF12)
2 cm Muc	, ,				amy Gleyed		2)		Other (Explain in Remarks)
_	Below Dark S	iurface (Δ1	1)		pleted Matr				Other (Explain in Nemarks)
_ '	k Surface (A1	•	.,		dox Dark Si				
_	ck Mineral (S	•			pleted Dark		7)		<sup>3</sup> Indicators of hydrophytic vegetation and
_ ·	ky Peat or Pe			∐ Re	dox Depres	sions (F8)			wetland hydrology must be present, unless disturbed or problematic.
	ayer (if obs								
Type:	.,	,.							
•									
	hes):								Hydric Soil Present? Yes   No
	hes):								Hydric Soil Present? Yes   No
emarks:	)GY								Hydric Soil Present? Yes ● No ○
YDROLO	OGY rology Indio	cators:	s required.	check all th	at anniv)				
YDROLC  Vetland Hyd	OGY rology India ators (minimu	cators:	s required;			nd Loaves	/pa)		Secondary Indicators (minimum of two required)
YDROLO  Vetland Hydrimary Indica  Surface W	PGY  rology Indiators (minimul/ater (A1)	cators: im of one i	s required; (	v	Vater-Stain		(B9)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)
YDROLC  Yetland Hyd  rimary Indica  Surface W  High Wate	OGY rology India ators (minimul /ater (A1) er Table (A2)	cators: im of one i	s required; (	U V	Vater-Stain	na (B13)	. ,		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10)
YDROLO  Yetland Hyd rimary Indica  Surface W  High Wate  Saturation	PGY rology India ators (minimul /ater (A1) er Table (A2)	cators: im of one i	s required;	U V	Vater-Stain Aquatic Faul True Aquatio	na (B13) c Plants (B1	14)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)
YDROLO  Yetland Hyd rimary Indica  Surface W High Wate Saturation Water Ma	rology Indiators (minimul/ater (A1) er Table (A2) in (A3) rks (B1)	cators: m of one i	s required;	U V	Vater-Stain Aquatic Faul True Aquatio Hydrogen St	na (B13) c Plants (B1 ulfide Odor	14) (C1)	toots (C3)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)
YDROLO Yetland Hyd rimary Indica Surface W High Wate Saturatior Water Ma Sediment	rology Indicators (minimulators (minimulator (A1)) er Table (A2) in (A3) rks (B1) Deposits (B2)	cators: m of one i	s required;	V   A   T   H   C	Vater-Stain Aquatic Faul True Aquation Hydrogen St Oxidized Rh	na (B13) c Plants (B1 ulfide Odor izospheres	14) (C1) on Living R	doots (C3)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)
YDROLC  Yetland Hyd rimary Indica  Surface W High Wate Saturation Water Ma Sediment Drift Depo	rology Indicators (minimulater (A1) er Table (A2) in (A3) rks (B1) Deposits (B2) osits (B3)	cators: Im of one i	s required;	V   A   T   H   C	Vater-Stain quatic Faul rue Aquatic Hydrogen St Oxidized Rhi Presence of	na (B13) c Plants (B1 ulfide Odor izospheres Reduced II	14) (C1) on Living F ron (C4)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)
YDROLC  Yetland Hyd rimary Indica  Surface W High Wate Saturation Water Ma Sediment Drift Depo	rology India ators (minimul/ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2 osits (B3) or Crust (B4)	cators: Im of one i	's required; (	V   A   T   H   C   F	Vater-Stain equatic Faul Frue Aquatic Hydrogen St Dxidized Rhi Presence of Recent Iron	na (B13) c Plants (B1 ulfide Odor izospheres Reduced II Reduction	(C1) on Living Fron (C4) in Tilled Sc		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)
YDROLC  Vetland Hyd rimary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo	rology India ators (minimul/ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2 osits (B3) or Crust (B4)	cators: m of one i		V	Vater-Stain quatic Faul rue Aquatic Hydrogen St Oxidized Rhi Presence of	na (B13) c Plants (B1 ulfide Odor izospheres Reduced II Reduction urface (C7)	(C1) on Living F ron (C4) in Tilled Sc		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
YDROLO  Yetland Hydrimary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	rology India ators (minimulators (minimulators (minimulators (A1)) er Table (A2) in (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	cators: m of one i	gery (B7)	V T F	Vater-Stain equatic Faul Frue Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S	na (B13) c Plants (B1 ulfide Odor izospheres Reduced In Reduction urface (C7) ell Data (D	(C1) on Living R ron (C4) in Tilled Sc )		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
YDROLC  Vetland Hydrimary Indica Surface W High Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W	rology India ators (minimul/ ater (A1) er Table (A2) in (A3) rks (B1) Deposits (B2 osits (B3) or Crust (B4) osits (B5) in Visible on A /egetated Co	cators: Im of one i ) Aerial Imag ncave Surf	gery (B7) Face (B8)	V	Vater-Stain Aquatic Faul Frue Aquatic Hydrogen Stain Dividized Rhi Presence of Recent Iron Thin Muck S Gauge or Wi Dither (Explain	na (B13) c Plants (B1 c Plants (B1 izospheres Reduced In Reduction urface (C7) ell Data (Di	(C1) on Living R ron (C4) in Tilled Sc )		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
YDROLO  Vetland Hyd  rimary Indica  Surface W  High Water  Saturatior  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundatio  Sparsely W	Protection of the present?	cators: Im of one i  Aerial Imag	gery (B7) Face (B8)	V	Vater-Stain quatic Faul frue Aquatic Hydrogen Stail Diddized Rhi Presence of Recent Iron Thin Muck Stauge or W	na (B13) c Plants (B1 c Plants (B1 izospheres Reduced In Reduction urface (C7) ell Data (Di	(C1) on Living R ron (C4) in Tilled Sc )		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
YDROLO Vetland Hyd Primary Indica Surface W High Water Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W	rology India ators (minimum) /ater (A1) er Table (A2) in (A3) rks (B1) Deposits (B2) or Crust (B4) sists (B5) in Visible on A /egetated Co ations: Present?	cators: Im of one i ) Aerial Imag ncave Surf	gery (B7) Face (B8)	V	Vater-Stain Aquatic Faul Frue Aquatic Hydrogen Stain Dividized Rhi Presence of Recent Iron Thin Muck S Gauge or Wi Dither (Explain	na (B13) c Plants (B1 dlfide Odor izospheres Reduced II Reduction urface (C7) ell Data (Di in Rema	(C1) on Living R ron (C4) in Tilled Sc )	ils (C6)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
YDROLO Vetland Hyd Primary Indica Surface W High Water Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W ield Observ. Vater Table P aturation Pre	Pogy rology India ators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) arts (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on A /egetated Co ations: Present? resent?	cators: Im of one i  Aerial Imag	gery (B7) face (B8) No (	V	Vater-Stain quatic Faur frue Aquatic Hydrogen Stain Didized Rhi Presence of Recent Iron Thin Muck Stauge or Wolther (Explain Depth (inc.	na (B13) c Plants (B1 c) c) Plants (B1	(C1) on Living R ron (C4) in Tilled Sc ) 9)	ils (C6)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
YDROLO  Vetland Hyd  Primary Indica  Surface W  High Water  Saturation  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundatio  Sparsely W  ield Observator  Vater Table Paturation Pre  ncludes capil	Pogy rology India ators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) ar Table (A2) ar (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) ar Visible on A /egetated Co ations: Present? resent? sent? lary fringe)	cators: m of one i  Aerial Imag ncave Surf  Yes  Yes  Yes	jery (B7) ace (B8)  No (  No (  No (	V	Vater-Stain aquatic Faura Aquatic Faura Aquatic Faura Aquatic Hydrogen Standized Rhi Presence of Recent Iron Thin Muck Stauge or Wolther (Explain Depth (incompeth (incompetal))).	na (B13) c Plants (B1 clifide Odor izospheres Reduced II Reduction urface (C7) ell Data (Di in in Rema hes): hes):	(C1) (C1) on Living R ron (C4) in Tilled Sc ) 9) arks)	- Wetl	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
YDROLO  Vetland Hyd  Verland Hy	Pogy rology India ators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) ar Table (A2) ar (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) ar Visible on A /egetated Co ations: Present? resent? sent? lary fringe)	cators: m of one i  Aerial Imag ncave Surf  Yes Yes Yes	jery (B7) ace (B8)  No (  No (  No (	V	Vater-Stain aquatic Faura Aquatic Faura Aquatic Faura Aquatic Hydrogen Standized Rhi Presence of Recent Iron Thin Muck Stauge or Wolther (Explain Depth (incompeth (incompetal))).	na (B13) c Plants (B1 clifide Odor izospheres Reduced II Reduction urface (C7) ell Data (Di in in Rema hes): hes):	(C1) (C1) on Living R ron (C4) in Tilled Sc ) 9) arks)	- Wetl	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)

Project/Site: Hillsboro-Hutchings 138kV		City	y/County: Highland	County Sampling Date: 07-Dec-17
Applicant/Owner: AEP			Sta	te: OH Sampling Point: w-aeh-120717-02
				ge: S T R
Landform (hillslope, terrace, etc.): Swale				f (concave, convex, none): flat
· · · · · · · · · · · · · · · · · · ·	-			-
Slope: 0.0% 0.0 ° Lat.:			Long.: -83.7206	
Soil Map Unit Name: Pits, guarry (Pg	1)		<b>3</b> O	NWI classification: NA
Are climatic/hydrologic conditions on the	site typical for this time of y	<sub>/ear?</sub> Yes	● No ○ (If no	, explain in Remarks.)
Are Vegetation , Soil		ignificantly dist		"Normal Circumstances" present? Yes   No
Are Vegetation , Soil .		aturally proble		needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A		ving samp	oling point locat	ions, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes   No			
Hydric Soil Present?	Yes   No		Is the Sample within a Wetla	
Wetland Hydrology Present?	Yes ● No ○			103 0 110 0
Remarks:			•	
<b>VEGETATION</b> - Use scie	ntific names of plan	its.	Dominant	
		Absolute	- Species? ————————————————————————————————————	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:	)	% Cover	Cover Status	
1		0	0.0%	That are OBL, FACW, or FAC:1(A)
2		0_	0.0%	
3			0.0%	Total Number of Dominant Species Across All Strata: 1 (B)
4		0	0.0%	
5		0	0.0%	Percent of dominant Species  That Are ORL FACW or FAC: 100.0% (A/B)
		0	= Total Cover	That Are OBL, FACW, or FAC:100.0% (A/B)
<u>Sapling/Shrub Stratum (</u> Plot size:	)			Prevalence Index worksheet:
1		0_	0.0%	Total % Cover of: Multiply by:
2		0	0.0%	OBL species 0 x 1 = 0
3		0	0.0%	FACW species x 2 =
4		0	0.0%	FAC species x 3 =
5		0	0.0%	FACU species
_Herb Stratum_(Plot size:	)	0	= Total Cover	UPL species 0 x 5 = 0
1. Phragmites australis	·	100	✓ 100.0% FACW	Column Totals:100 (A)200 (B)
2.			0.0%	
3.		0	0.0%	Prevalence Index = B/A = 2.000
4.		0	0.0%	Hydrophytic Vegetation Indicators:
5.		0	0.0%	1 - Rapid Test for Hydrophytic Vegetation
6.		0	0.0%	2 - Dominance Test is > 50%
7.		0	0.0%	3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		0	0.0%	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9.		0	0.0%	
10.		0	0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
(8)	,	100	= Total Cover	1 Indicators of hydric soil and wetland hydrology must
(Plot size:				be present, unless disturbed or problematic.
1		0	0.0%	- Hydrophytic
2		0	0.0%	- Vegetation
		0	= Total Cover	Present? Yes No C
				- I
Remarks: (Include photo numbers	here or on a separate sh	neet.)		
I				

SOIL Sampling Point: w-aeh-120717-02

Profile Description: (Describe to the depth needed to document the indica	
Depth Matrix Redox Feature (inches) Color (moist) % Color (moist) %	s
0-4 2.5Y 7/3 100	sand
4-6 2.5Y 7/4 100	Sand
6-15 10YR 5/1 100	Loam
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated	Sand Grains.
Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic Epipedon (A2)  Sandy Redox (S5)	Dark Surface (S7)
☐ Black Histic (A3) ☐ Stripped Matrix (S6) ☐ Hydrogen Sulfide (A4) ☐ Larger Marker Misser (C3)	Iron Manganese Masses (F12)
Stratified Layers (A5)	☐ Very Shallow Dark Surface (TF12)
2 cm Muck (A10)	Other (Explain in Remarks)
Depleted Polow Dark Surface (A11)	Other (Explain in Remarks)
Thick Dark Surface (A12)	
Sandy Muck Mineral (S1)	maleators of flyarophytic vegetation and
Sandy Muck Willerar (ST)  Redox Depressions (F8)  5 cm Mucky Peat or Peat (S3)	wetland hydrology must be present, unless disturbed or problematic.
Type: Depth (inches): Remarks:	Hydric Soil Present? Yes  No
YDROLOGY	
Vetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Vetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)	
Vetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)	Surface Soil Cracks (B6)  Drainage Patterns (B10)
Vetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)
Vetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  ☐ Surface Water (A1) ☐ Water-Stained Leaves (E  ✓ High Water Table (A2) ☐ Aquatic Fauna (B13) ✓ Saturation (A3) ☐ True Aquatic Plants (B14)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  Crayfish Burrows (C8)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Inc.	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  Crayfish Burrows (C8)  In Living Roots (C3)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Presence of Reduced Iro	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  Crayfish Burrows (C8)  In Living Roots (C3)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Tilled Soils (C6)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E)  High Water Table (A2)  Saturation (A3)  True Aquatic Fauna (B13)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Thin Muck Surface (C7)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  Crayfish Burrows (C8)  In Living Roots (C3)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Tilled Soils (C6)  FAC-Neutral Test (D5)
Actland Hydrology Indicators:  Irimary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E Aquatic Fauna (B13)  Saturation (A3)  True Aquatic Plants (B14)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Marks (B1)  Aquatic Fauna (B13)  Aquatic Fauna (B13)  Aquatic Fauna (B13)  Aquatic Plants (B14)  Bydrogen Sulfide Odor (  Oxidized Rhizospheres of Reduced Iron  Recent Iron Reduction in Thin Muck Surface (C7)  Gauge or Well Data (D9)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  C1)  C1)  C1)  C2)  C3)  C3)  C4)  C4)  C5)  C6)  C6)  C6)  C7  C7  C7  C7  C7  C7  C7  C7  C7  C
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E)  High Water Table (A2)  Saturation (A3)  True Aquatic Fauna (B13)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Thin Muck Surface (C7)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  C1)  C1)  C1)  C2)  C3)  C3)  C4)  C4)  C5)  C6)  C6)  C6)  C7  C7  C7  C7  C7  C7  C7  C7  C7  C
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water Marks (B1)  Presence of Reduced Iron Reduction in Thin Muck Surface (C7)  Gauge or Well Data (D9)  Sparsely Vegetated Concave Surface (B8)  Other (Explain in Remarking Concave Surface (B8)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  C1)  C1)  C1)  C2)  C3)  C3)  C4)  C4)  C5)  C6)  C6)  C6)  C7  C7  C7  C7  C7  C7  C7  C7  C7  C
Vetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (Easter Stained Leaves)         ✓ High Water Table (A2)       Aquatic Fauna (B13)         ✓ Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (Balace Mizospheres of Condition of Call Call Call Call Call Call Call Cal	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  C1)  C1  C1  C1  C1  C1  C1  C1
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water Table Present?  Yes  No  Depth (inches):  Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) C1) Crayfish Burrows (C8) In Living Roots (C3) Saturation Visible on Aerial Imagery (C9) In Tilled Soils (C6) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No
Vetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (Easter Stained Leaves)         ✓ High Water Table (A2)       Aquatic Fauna (B13)         ✓ Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (Balace Mizospheres of Condition of Call Call Call Call Call Call Call Cal	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  C1)  C1)  C1)  C1)  C2)  C3)  C3)  C4)  C4)  C5)  C6)  C6)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  C7  C7  C7  C7  C7  C7  C7  C7  C7  C
Vetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (E         ✓ High Water Table (A2)       Aquatic Fauna (B13)         ✓ Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (Balace Anticospheres of Condition (B3)         Drift Deposits (B3)       Presence of Reduced Inc.         Algal Mat or Crust (B4)       Recent Iron Reduction in Reduction in Reduction in Inc.         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarked)         Field Observations:       Surface Water Present?       Yes No       Depth (inches):         Vas No       Depth (inches):       Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) C1) C1) C1 Crayfish Burrows (C8) In Living Roots (C3) Saturation Visible on Aerial Imagery (C9) In C4) Stunted or Stressed Plants (D1) Tilled Soils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)  Ks)  Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (E  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water Table Present?  Yes No  Depth (inches):  Surface Water Present?  Ves No  Depth (inches):  Surface Water Present?  Surface Water Present?  Ves No  Depth (inches):  Surface Water Present?  Surface Water Present?  Ves No  Depth (inches):  Surface Water Present?  Surface Water Present?  Ves No  Depth (inches):  Surface Water Present?	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) C1) C1) C1 Crayfish Burrows (C8) In Living Roots (C3) Saturation Visible on Aerial Imagery (C9) In C4) Stunted or Stressed Plants (D1) Tilled Soils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)  Ks)  Wetland Hydrology Present? Yes No

Project/Site: Hillsboro-Hutchings 138kV	City/County:	Highland Coun	ty Sampling Date: 07-Dec-17
Applicant/Owner: AEP		State:	OH Sampling Point: w-aeh-120717-01
Investigator(s): JTT, AEH	Section, To	wnship, Range: S	T R
Landform (hillslope, terrace, etc.): Flat		Local relief (con	cave, convex, none): concave
Slope: <u>0.0%</u> <u>0.0</u> ° Lat.: 39.19386113	Long.:		Datum: NAD 83
	Long	-03.72479033	
Soil Map Unit Name: <u>Pits, quarry (Pq)</u> Are climatic/hydrologic conditions on the site typical for this	u c ves No C	(If no ovnis	NWI classification: NA
Are Vegetation, Soil, or Hydrology			F
Are Vegetation , Soil , or Hydrology	naturally problematic?	(If needed	d, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site ma	p showing sampling po	int locations	, transects, important features, etc.
Hydrophytic Vegetation Present? Yes  No	0		
Hydric Soil Present? Yes ● No	O Ist	he Sampled Are	
Wetland Hydrology Present? Yes  No	I WIL	hin a Wetland?	Yes   ● No ○
Remarks:			
PEM wetland adjacent to pond-aeh-120717-01; ca	tail dominant		
VEGETATION - Use scientific names	Of plants. Dominal Species		
	Absolute Rel.Stra	t. Indicator	Dominance Test worksheet:
1			Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2			That die OBL, FACW, OF FAC.
3			Fotal Number of Dominant Species Across All Strata: 2 (B)
4.			species Across Air Strata
5.	0 000		Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
	0 = Total C	over	That Are OBL, FACW, or FAC:100.0% (A/B)
Sapling/Shrub Stratum (Plot size: )			revalence Index worksheet:
1. Cornus drummondii	10 100.0		Total % Cover of: Multiply by:
2. 3.	0 0.0%		OBL species $100 \times 1 = 100$
4.	0 0.0%		FACW species 0 x 2 = 0 FAC species 10 x 3 = 30
5.	0 0.0%		FACU species $0 \times 4 = 0$
		over	UPL species 0 x 5 = 0
4 T 1	100 🗹 100.0	% OBL	Column Totals: 110 (A) 130 (B)
1. Typna angustirolla 2.			
3.			Prevalence Index = B/A =1.182
4.		F	lydrophytic Vegetation Indicators: ¬
5.	0 0.0%		1 - Rapid Test for Hydrophytic Vegetation
6	00.0%	_	2 - Dominance Test is > 50%
7	0 0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8. 9.	0 0.0%		data in Remarks or on a separate sheet)
10.		L	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	0 0.0% 100 = Total C	over	Indicators of hydric soil and wetland hydrology must
	= 10tal C	I k	pe present, unless disturbed or problematic.
1	0 0.0%		Lludraphytia
2	0 0.0%		Hydrophytic Vegetation Present? Yes No
	= Total C	over	Present? Yes V No
Demontos (Include objeta ocupa	annaka alaast V		
Remarks: (Include photo numbers here or on a se	parate sneet.)		

SOIL Sampling Point: w-aeh-120717-01

Profile Description: (D		uopi					•
DepthColor	Matrix (moist)	%	Color (moist)	Redox Feat	ures _Tvpe <sup>1</sup>	Loc <sup>2</sup>	TextureRemarks
0-3 10YR	3/1	100	00101 111101017				Silty Clay
3-12 10YR	5/6	85	7.5YR 6/8	15		M	Silty Clay
			-				
			<del></del>				
Type: C=Concentration,	D=Depletion	, RM=Redu	ced Matrix, CS=Co	ered or Coa	ted Sand Gra	ns.	4ocation: PL=Pore Lining. M=Matrix.
Hydric Soil Indicators	:						Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)				ed Matrix (S	4)		Coast Prairie Redox (A16)
Histic Epipedon (A2) Black Histic (A3)			Sandy Red				Dark Surface (S7)
Hydrogen Sulfide (A	4)		Stripped N				☐ Iron Manganese Masses (F12)
Stratified Layers (A5				cky Mineral (			☐ Very Shallow Dark Surface (TF12)
2 cm Muck (A10)			✓ Depleted N	yed Matrix (I Natrix (E3)	-2)		Other (Explain in Remarks)
Depleted Below Dar	k Surface (A1	1)		k Surface (F	5)		
Thick Dark Surface (	(A12)			ark Surface	-		<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Muck Mineral	(S1)			ressions (F8			wetland hydrology must be present,
5 cm Mucky Peat or	Peat (S3)			`	,		unless disturbed or problematic.
Restrictive Layer (if ol	oserved):						
Туре:							Hydric Soil Present? Voc  No
Type: Depth (inches): Remarks:							Hydric Soil Present? Yes ● No ○
Depth (inches):							Hydric Soil Present? Yes   No
Depth (inches):Remarks:  IYDROLOGY  Wetland Hydrology In							
Depth (inches):		s required;					Secondary Indicators (minimum of two required)
Depth (inches):	mum of one is	s required;	✓ Water-St	ained Leave	s (B9)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)
Depth (inches):  Remarks:  YDROLOGY  Vetland Hydrology In  Primary Indicators (mini  Surface Water (A1)  High Water Table (A	mum of one is	s required;	✓ Water-St	ained Leave auna (B13)			Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)
Depth (inches):  Remarks:  YDROLOGY  Vetland Hydrology In  Primary Indicators (mining)  Surface Water (A1)  High Water Table (A)  Saturation (A3)	mum of one is	s required;	Water-Si Aquatic I True Aqu	ained Leave Fauna (B13) natic Plants (	B14)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)
Depth (inches):  Remarks:  IYDROLOGY  Vetland Hydrology In  Primary Indicators (mini  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)	mum of one is	s required;	Water-Si Aquatic I True Aqu Hydroge	ained Leave Fauna (B13) natic Plants ( n Sulfide Od	B14) or (C1)	oots (C3)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)
Depth (inches):  Remarks:  PYDROLOGY  Vetland Hydrology In  Primary Indicators (mining)  Surface Water (A1)  High Water Table (A)  Vater Marks (B1)  Sediment Deposits (	mum of one is	s required;	✓ Water-Si  Aquatic I  True Aqu  Hydroge  Oxidized	ained Leave Fauna (B13) natic Plants ( n Sulfide Od	B14) or (C1) es on Living R	oots (C3)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)
Depth (inches):  Remarks:  IYDROLOGY  Vetland Hydrology In  Primary Indicators (mini  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)	mum of one is 2) B2)	s required;	✓ Water-Si  Aquatic  True Aqu  Hydroge  Oxidized  Presence	ained Leave fauna (B13) latic Plants ( n Sulfide Ode Rhizosphere of Reduced	B14) or (C1) es on Living R		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)
Depth (inches):  Remarks:  IYDROLOGY  Wetland Hydrology In  Primary Indicators (mining of the second	mum of one is 2) B2)	s required;	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence	ained Leave fauna (B13) latic Plants ( n Sulfide Ode Rhizosphere of Reduced	B14) or (C1) es on Living R Iron (C4) n in Tilled So		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)
Depth (inches):  Remarks:  PYDROLOGY  Vetland Hydrology In  Primary Indicators (mining)  Surface Water (A1)  High Water Table (A)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B)	mum of one is  2)  B2)		✓ Water-Si	ained Leave Fauna (B13) natic Plants ( n Sulfide Odi Rhizosphere of Reduced	B14) or (C1) os on Living R Iron (C4) n in Tilled So (7)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Depth (inches):	mum of one is  2)  B2)  34)  n Aerial Imag	ery (B7)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced ron Reduction	B14) or (C1) os on Living R Iron (C4) n in Tilled So 7)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Depth (inches):  Remarks:  IYDROLOGY  Wetland Hydrology In Primary Indicators (mining of the content of the con	mum of one is  2)  B2)  34)  n Aerial Imag	ery (B7)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced ron Reduction ek Surface (C	B14) or (C1) os on Living R Iron (C4) n in Tilled So 7)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Depth (inches):  Remarks:  Remarks:  PYDROLOGY  Vetland Hydrology In Primary Indicators (mining and	mum of one is 2) B2) Aerial Imag	ery (B7) ace (B8)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Mue Gauge o	ained Leave Fauna (B13) latic Plants ( n Sulfide Od- Rhizosphere of Reduced ron Reduction ek Surface (C Well Data ( xplain in Rer	B14) or (C1) os on Living R Iron (C4) n in Tilled So 7)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Depth (inches):  Remarks:  Remarks:  Remarks:  PyDROLOGY  Vetland Hydrology In  Primary Indicators (mining of the second of the	mum of one is 2) B2) Aerial Imag Concave Surfa	ery (B7) ace (B8)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o Other (E	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced ron Reduction ek Surface (C Well Data ( explain in Rer (inches):	B14) or (C1) os on Living R Iron (C4) n in Tilled So (7) D9) narks)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Depth (inches):  Remarks:  Remarks:  IYDROLOGY  Wetland Hydrology In  Primary Indicators (mining)  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B3)  Algal Mat or Crust (B3)  Iron Deposits (B5)  Inundation Visible of  Sparsely Vegetated  Field Observations:  Surface Water Present?  Water Table Present?	B2) B2) Aerial Imagg Concave Surfa Yes Yes	ery (B7) ace (B8)  No (	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Mu Gauge o Other (E	ained Leave Fauna (B13) latic Plants ( n Sulfide Od- Rhizosphere of Reduced ron Reduction ek Surface (C Well Data ( xplain in Rer	B14) or (C1) os on Living R Iron (C4) n in Tilled So 7)	ils (C6)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
Depth (inches):  Remarks:  IYDROLOGY  Wetland Hydrology In  Primary Indicators (mini  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (E  Iron Deposits (B5)  Inundation Visible o	B2) B2) Aerial Imag Concave Surfa  Yes  Yes	ery (B7) ace (B8)  No (	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o Other (E	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced ron Reduction ek Surface (C Well Data ( explain in Rer (inches):	B14) or (C1) os on Living R Iron (C4) n in Tilled So (7) D9) narks)	ils (C6)	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
Depth (inches):  Remarks:	B2) B4) Aerial Imag Concave Surfa  Yes Yes Yes	ery (B7) ace (B8)  No (O) No (O) No (O)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o Other (E	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced fron Reduction k Surface (C v Well Data ( xplain in Rer (inches): (inches):	B14) or (C1) es on Living R Iron (C4) n in Tilled So 7) D9) narks)	Wet	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
Depth (inches):  Remarks:	B2) B4) Aerial Imag Concave Surfa  Yes Yes Yes	ery (B7) ace (B8)  No (O) No (O) No (O)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o Other (E	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced fron Reduction k Surface (C v Well Data ( xplain in Rer (inches): (inches):	B14) or (C1) es on Living R Iron (C4) n in Tilled So 7) D9) narks)	Wet	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
Depth (inches):  Remarks:  Remarks:  Remarks:  PyDROLOGY  Wetland Hydrology In  Primary Indicators (mining)  Surface Water (A1)  High Water Table (A  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B1)  Iron Deposits (B5)  Inundation Visible of Sparsely Vegetated  Field Observations:  Surface Water Present?  Water Table Present?  Saturation Present?  Saturation Present?  Saturation Present?	B2) B4) Aerial Imag Concave Surfa  Yes Yes Yes	ery (B7) ace (B8)  No (O) No (O) No (O)	Water-Si Aquatic I True Aqu Hydroge Oxidized Presence Recent I Thin Muc Gauge o Other (E	ained Leave Fauna (B13) natic Plants ( n Sulfide Ode Rhizosphere of Reduced fron Reduction k Surface (C v Well Data ( xplain in Rer (inches): (inches):	B14) or (C1) es on Living R Iron (C4) n in Tilled So 7) D9) narks)	Wet	Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)

Project/Site: Hilsboro-Hutchingson		City/Coun	ty: Highland		Sampling	Date: 12-Dec-17
Applicant/Owner: aep			State:	ОН	Sampling Point:	w-aeh-20171212-01
Investigator(s): _aeh, pjr		Section,	Township, Range:	: S T	R	
Landform (hillslope, terrace, etc.): Swale				concave, convex, no		
Slope: 0.0% 0.0 ° Lat.:	30 224607475	Lor		222	Datum	: NAD 83
Soil Map Unit Name: Westboro-Scha					ssification: N/A	
Are climatic/hydrologic conditions on the				xplain in Remarks.)		Yes   No
Are Vegetation, Soil	, or Hydrology  s	significantly disturbed?	' Are "No	ormal Circumstances	" present?	res 🖭 No 🔾
Are Vegetation, Soil	, or Hydrology 🔲 r	naturally problematic?	(If nee	ded, explain any an	swers in Remarks.)	
SUMMARY OF FINDINGS - A	ttach site map sho	wing sampling	point locatio	ns, transects,	important fea	itures, etc.
	Yes  No	<u> </u>	•		<u> </u>	<u> </u>
Hydrophytic Vegetation Present?	Yes No No		Is the Sampled A	Area		
Hydric Soil Present?	Yes No No	,	within a Wetland	d? Yes ⊙ No	<b>)</b> O	
Wetland Hydrology Present?	Yes ♥ No ∪					
Remarks:						
<b>VEGETATION</b> - Use scie	entific names of plar	nts. Domi	nant			
	<u> </u>	Spec	ies? ————————————————————————————————————	Dominance Test	t worksheet:	
<u>Tree Stratum</u> (Plot size:	)	% Cover Cov		Number of Domir		
1		0 0.	.0%	That are OBL, FA		2 (A)
2			.0%	Total Number of	Dominant	
3		_ 0	.0%	Total Number of Species Across Al		(B)
4		_ 0	.0%			
5			.0%	Percent of dom That Are OBL, I		100.0% (A/B)
(0)	`	= Tota	Il Cover	mat / ii o obe, i		
Sapling/Shrub Stratum (Plot size:	)			Prevalence Inde		
1			.0%	Total % (		ultiply by:
2. 3.			.0%	OBL species		1 = 35
4.			.0%	FACW species	-	2 = <u>40</u> 3 = 0
5.			.0%	FAC species FACU species		
-			Il Cover	UPL species		4 = <u>40</u> 5 = <u>0</u>
<u>Herb Stratum</u> (Plot size:	)					
			3.5% OBL	Column Totals	s: <u>65</u> (A	A) <u>115</u> (B)
			0.8% FACW	Prevalence	Index = B/A =	1.769
4 0 11 1		10 0 15	0BL	Hydrophytic Vec	getation Indicator	rs:
<sub>F</sub>			.0% FACU	✓ 1 - Rapid Tes	st for Hydrophytic	: Vegetation
5. 6.			.0%	2 - Dominan	ice Test is > 50%	
7.			.0%	✓ 3 - Prevalence	ce Index is ≤3.0 <sup>1</sup>	
8.			.0%	4 - Morpholo	ogical Adaptations	s 1 (Provide supporting
9.		0 0.	.0%		arks or on a separ	
10.		0 0.	.0%			etation <sup>1</sup> (Explain)
(D)-1	1	65 = Tota	Il Cover		hydric soil and we	etland hydrology must
<u>Woodv Vine Stratu</u> (Plot size:		0	00/	De present, unit	, ss disturbed of p	i obiciliatic.
1 2.			.0%	Hydrophytic		
۷				Vegetation	Yes ● No C	)
		= Tota	Il Cover	Present?		
Remarks: (Include photo numbers	horo or on a congreta a	hoot )				
Remarks. (Include prioto numbers	rnere or our a separate s	11661. <i>)</i>				

0-3	COIOLUI	noist)	%	Color (		ox Featu	Type 1	Loc2	Texture	Remarks
	10YR	3/1	95	10YR	5/6	5	C	M	Silty Clay Loam	Noa. No
3-18	10YR	4/1	85	10YR	5/6	15	С	M	Silty Clay Loam	
Type: C=Conce	ndicators:	=Depletion	n, RM=Redu					ains.	4. 4. Accation: PL=Pore Lining. N	
<ul><li>Histosol (A</li><li>Histic Epipe</li></ul>					ndy Gleyed		1)		Coast Prairie Redox (	A16)
Black Histic					ndy Redox (				☐ Dark Surface (S7)	
	Sulfide (A4)				ipped Matri				☐ Iron Manganese Mas	ses (F12)
Stratified L					amy Mucky				Very Shallow Dark Su	
2 cm Muck	•				amy Gleyed		2)		Other (Explain in Rer	
	Selow Dark S	urface (A1	1)		pleted Matr				Other (Explain in Net	
	Surface (A1:		-,		dox Dark Su	` ,			2	
	k Mineral (S	•			pleted Dark		F7)		3 Indicators of hydrophy	tic vegetation and
	y Peat or Pe			∐ Re	dox Depres	sions (F8)			wetland hydrology unless disturbed o	
Restrictive La									aoss distarbed o	- p. 2000a.o.
Type:	Aer (II ODSE	.i veu):								
Depth (inch	De).								1	
	007								Hydric Soil Present?	Yes   No
Remarks:									Hydric Soil Present?	Yes ● No ○
IYDROLO	GY	eators:							Hydric Soil Present?	Yes ● No ○
HYDROLO	GY ology Indic		s required:	check all th	at apply)					
HYDROLO Wetland Hydr Primary Indicat	GY ology Indic tors (minimu	m of one i	is required;			ed Leaves	(B9)			ors (minimum of two required)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa	GY ology Indic tors (minimulater (A1)	m of one i	s required;	v	at apply) Vater-Staine		(B9)		Secondary Indicate	ors (minimum of two required) acks (B6)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  V High Water	GY ology Indic tors (minimulater (A1) r Table (A2)	m of one i	is required;	U V	Vater-Staine Aquatic Faur	na (B13)			Secondary Indicate Surface Soil Cr Drainage Patte	ors (minimum of two required) acks (B6) rns (B10)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  W High Water	GY rology Indic tors (minimu ater (A1) r Table (A2) (A3)	m of one i	s required;	U V	Vater-Staine	na (B13) : Plants (B	14)		Secondary Indicato  Surface Soil Cr  Drainage Patte  Dry Season Wa	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl	GY rology Indictors (minimulater (A1) r Table (A2) (A3) ks (B1)	m of one i	s required;	U V	Vater-Staine Aquatic Faur True Aquatic Hydrogen St	na (B13) : Plants (B ulfide Odor	14) r (C1)	Roots (C3)	Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov	ors (minimum of two required) acks (B6) rns (B10) uter Table (C2) vs (C8)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl	GY  rology Indicators (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	m of one i	s required;	□ V □ A □ T □ H	Vater-Staine Aquatic Faur True Aquatio	na (B13) : Plants (B ulfide Odor zospheres	14) r (C1) s on Living	Roots (C3)	Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment [  Drift Depos	GY  rology Indicators (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	m of one i	s required;	V   A   T   C   P	Vater-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi	na (B13) Plants (B ulfide Odor zospheres Reduced I	14) r (C1) on Living fron (C4)		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) vs (C8) ole on Aerial Imagery (C9)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment [  Drift Depos	GY  ology Indicators (minimulators (M1)  r Table (A2)  (A3)  ks (B1)  Deposits (B2)  sits (B3)  or Crust (B4)	m of one i	is required;	V   A   T   H   C   P   R	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of	na (B13) : Plants (B ulfide Odor zospheres Reduced I Reduction	14) r (C1) on Living fron (C4) in Tilled S		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) avs (C8) ale on Aerial Imagery (C9) assed Plants (D1) assition (D2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment I  Drift Depos  Algal Mat o	GY  ology Indicators (minimulators (M1)  r Table (A2)  (A3)  ks (B1)  Deposits (B2)  sits (B3)  or Crust (B4)	m of one i		V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron	na (B13) c Plants (B ulfide Odor zospheres Reduced I Reduction urface (C7	14) r (C1) r on Living ron (C4) r in Tilled S		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) avs (C8) ale on Aerial Imagery (C9) assed Plants (D1) assition (D2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment I  Drift Depos  Algal Mat of  Iron Depos  Inundation	GY  ology Indictors (minimulater (A1)  r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	m of one i	gery (B7)	V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S	na (B13) c Plants (B ulfide Odor zospheres Reduced I Reduction urface (C7 ell Data (D	14) r (C1) s on Living lron (C4) in Tilled S r)		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) avs (C8) ale on Aerial Imagery (C9) assed Plants (D1) assition (D2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Mark  Sediment I  Drift Depos  Algal Mat o  Iron Depos  Inundation  Sparsely Vo	ology Indicators (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) a Visible on A egetated Cor	m of one i	jery (B7) Pace (B8)	V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dixidized Rhi Presence of Recent Iron Thin Muck S Gauge or Wo Dither (Expla	na (B13) c Plants (B ulfide Odor zospheres Reduced I Reduction urface (C7 ell Data (D	14) r (C1) s on Living lron (C4) in Tilled S r)		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) avs (C8) ale on Aerial Imagery (C9) assed Plants (D1) assition (D2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment I  Drift Depos  Iron Depos  Inundation  Sparsely Water Field Observa  Surface Water F	GY  ology Indictors (minimulater (A1)  r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on A egetated Cor  tions: Present?	m of one i	gery (B7) Face (B8)	V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dixidized Rhi Presence of Recent Iron Thin Muck S Gauge or Wo Other (Expla	na (B13)  Plants (Bulfide Odor  Zospheres  Reduced I  Reduction  urface (C7  ell Data (D  uin in Remanthes):	14) r (C1) r on Living lron (C4) in Tilled S r) op) arks)		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) vs (C8) ble on Aerial Imagery (C9) essed Plants (D1) sition (D2) est (D5)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment I  Drift Depos  Algal Mat of  Iron Depos  Inundation	ology Indicators (minimulater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on A egetated Cor tions: Present?	m of one i  derial Imagencave Surf  Yes (	gery (B7) Face (B8)  No (Inc.)	V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dixidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) Plants (Bulfide Odor	14) r (C1) r on Living fron (C4) in Tilled S r r r r r r r r r r r r r r r r r r r	oils (C6)	Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) avs (C8) ale on Aerial Imagery (C9) assed Plants (D1) assition (D2)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment I  Drift Depos  Iron Depos  Inundation  Sparsely Water Field Observa  Surface Water Field Saturation Press (includes capilla	GY  ology Indictors (minimulater (A1)  r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on A egetated Cor  tions: Present? esent? eary fringe)	m of one i  verial Imag ncave Surf  Yes  Yes	gery (B7) Pace (B8) No (1) No (2) No (3) No (4)	V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dixidized Rhi Presence of Recent Iron Thin Muck S Gauge or Wo Other (Expla	na (B13)  Plants (Bulfide Odor Zospheres Reduced I Reduction urface (C7 ell Data (D lin in Remanthes):  hes):  hes):	14) r (C1) r on Living lron (C4) in Tilled S r) op) arks)	oils (C6)	Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre Geomorphic Po	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) vs (C8) ble on Aerial Imagery (C9) essed Plants (D1) sition (D2) est (D5)
HYDROLO  Wetland Hydr  Primary Indicat  Surface Wa  High Water  Saturation  Water Marl  Sediment I  Drift Depos  Iron Depos  Inundation  Sparsely Water Field Observa  Surface Water Field Saturation Press (includes capilla	GY  ology Indictors (minimulater (A1)  r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on A egetated Cor  tions: Present? esent? eary fringe)	m of one i  verial Imag ncave Surf  Yes  Yes	gery (B7) Pace (B8) No (1) No (2) No (3) No (4)	V	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dixidized Rhi Presence of Recent Iron Thin Muck S Gauge or Wo Other (Expla	na (B13)  Plants (Bulfide Odor Zospheres Reduced I Reduction urface (C7 ell Data (D lin in Remanthes):  hes):  hes):	14) r (C1) r on Living lron (C4) in Tilled S r) op) arks)	oils (C6)	Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre Geomorphic Pc	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) vs (C8) ble on Aerial Imagery (C9) essed Plants (D1) sition (D2) est (D5)

Midwest Region - Version 2.0 US Army Corps of Engineers

Project/Site: Hillsboro-Hutchingson	City/Co	unty: Clinton		Sampling Date: 12-Dec-17
Applicant/Owner: AEP		State:	Oh Samplir	ng Point: <b>w-aeh-20171212-02</b>
Investigator(s): aeh, pjr	Section	on, Township, Range:	S T	R
Landform (hillslope, terrace, etc.): Swale		Local relief (c	concave, convex, none): Co	
Slope:0.0%0.0 ° Lat.: 39.238328827		 Long.: -83.8344487	— 7/18	Datum: NAD 83
0.070			NWI classificati	
Soil Map Unit Name: <u>Clermont silt loam, 0 to 1 percent slopes</u> Are climatic/hydrologic conditions on the site typical for this time of y		Jo (If no ex	uplain in Remarks.)	υπ. <u>ΝΑ</u>
			•	nt? Yes • No •
	gnificantly disturbe		ormal Circumstances" prese	•••
Are Vegetation	nturally problemati	c? (If nee	ded, explain any answers ir	n Remarks.)
SUMMARY OF FINDINGS - Attach site map show	ving samplin	g point location	ns, transects, impo	rtant features, etc.
Hydrophytic Vegetation Present? Yes  No				
Hydric Soil Present? Yes  No		Is the Sampled A within a Wetland		
Wetland Hydrology Present? Yes  No		within a wetiant	r Yes ♥ No ∪	
Remarks:		l		
Nomano.				
VECTATION	<b>.</b>			
<b>VEGETATION</b> - Use scientific names of plan	Sp	minant ecies? ———		
		I.Strat. Indicator Cover Status	Dominance Test work	sheet:
1	0	0.0%	Number of Dominant Spe That are OBL, FACW, or	
2.	0	0.0%		
3		0.0%	Total Number of Domina Species Across All Strata	
4	0	0.0%		
5	0	0.0%	Percent of dominant S That Are OBL, FACW,	
(District)	0 = T	otal Cover		
	0	0.007	Prevalence Index worl	
1	0	0.0%	Total % Cover of OBL species	
3.	0	0.0%		$\frac{70}{15}$ $\times 1 = \frac{70}{30}$
4.	0	0.0%	-	$\frac{13}{5}$ $\times 2$ $\frac{30}{15}$
5.	0	0.0%		0 x 4 = 0
Herb Stratum (Plot size:	<u> </u>	otal Cover		0 x 5 = 0
1. Typha angustifolia	50	55.6% OBL	Column Totals:	90 (A) <u>115</u> (B)
2. Juncus effusus		22.2% OBL		
3. Echinochloa crus-galli	15	16.7% FACW	Prevalence Index	
4. Xanthium strumarium	5	5.6% FAC	Hydrophytic Vegetatio	
5	0	0.0%	2 - Dominance Test	Hydrophytic Vegetation
6	0	0.0%	✓ 3 - Prevalence Inde	
7	0	0.0%		Adaptations <sup>1</sup> (Provide supporting
8 9.	0	0.0%	data in Remarks or	on a separate sheet)
10.	0	0.0%	Problematic Hydro	phytic Vegetation $^{1}$ (Explain)
	90 = To	0.0%otal Cover		soil and wetland hydrology must
		otal covel	be present, unless dis	turbed or problematic.
1	0	0.0%	I ludronhudio	
2	0	0.0%	Hydrophytic Vegetation Present? Yes	a w
	= T	otal Cover	Present? Yes	No
Demonto (Inchelo de 1	+>			
Remarks: (Include photo numbers here or on a separate sh	ieet.)			

SOIL Sampling Point: w-aeh-20171212-02

Depth	Matrix			ox Features		e absence of indicators.)	
inches)	Color (moist)	%	Color (moist)	<u>% Tvpe</u> 1	Loc <sup>2</sup>	Texture	Remarks
0-15	10YR 4/1	85	10YR 5/6	15 C	M	Silty Clay Loam	
Histosol (A Histic Epip Black Histi Hydrogen Stratified I 2 cm Mucl Depleted I Thick Dark	pedon (A2) ic (A3) Sulfide (A4) Layers (A5)		Matrix, CS=Covere  Sandy Gleyed Sandy Redox ( Stripped Matrix Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark St Depleted Dark Redox Depress	Matrix (S4) (S5) x (S6) Mineral (F1) Matrix (F2) ix (F3) urface (F6) Surface (F7)	rains.	Accation: PL=Pore Lining. N  Indicators for Problem  Coast Prairie Redox ( Dark Surface (S7)  Iron Manganese Mas Very Shallow Dark Su Other (Explain in Rer  Indicators of hydrophy wetland hydrology	natic Hydric Soils <sup>3</sup> :  (A16)  ses (F12)  urface (TF12)  marks)  /tic vegetation and
5 cm Mucl	ky Peat or Peat (S3)  ayer (if observed):		Redox Depress	sions (F8)		unless disturbed o	or problematic.
Depth (inch	hes):					Hydric Soil Present?	Yes   No
Remarks:							
YDROLO  Vetland Hydi  Surface W  High Water  Saturation  Water Mar  Sediment  Drift Depo	rology Indicators: ators (minimum of one /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	is required; che	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron	na (B13)  : Plants (B14)  ulfide Odor (C1)  zospheres on Living  Reduced Iron (C4)  Reduction in Tilled		Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil Stunted or Stre	erns (B10) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Primary Indica  Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundation	rology Indicators: ators (minimum of one /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial Ima /egetated Concave Sur	gery (B7) face (B8)	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We Other (Expla	na (B13) IPlants (B14) Ilfide Odor (C1) IZOSPHERES ON LIVING REDUCED ITON (C4) REDUCED IN Tilled INTERCENTED INTERCENT	Soils (C6)	Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visil	acks (B6)  arrns (B10) ater Table (C2)  ws (C8) ble on Aerial Imagery (C9) assed Plants (D1) assition (D2)

nvestigator(s): aeh,pjr	Project/Site: Hilsboro-Hutchingson		City/	County: Highland		Sampling Date: 13-Dec-17
Local roller (nullslope, terrace, etc.)   Swallo   Local roller (nurcoree, correer, rome)   Concave   Datum: NAD 83	Applicant/Owner: aep			Stat	e: Oh	Sampling Point: w-aeh-20171213-01
Local roller (nullslope, terrace, etc.)   Swallo   Local roller (nurcoree, correer, rome)   Concave   Datum: NAD 83	Investigator(s): _aeh,pjr		Sec	ction, Township, Rang	ge: S T	R
Supple   0.0%   0.0   Lat: 39.24225304   Long   83.845337343   Datum:   NAD 83						
Les de l'autoritéries   Westboro Schaffer sit loans, 0 to 2 percent slones (WSSTAT)   NWI desdification. N/A      We de l'autoritéries   Westboro Schaffer sit loans, 0 to 2 percent slones (WSSTAT)   NWI desdification. N/A	Slope: 0.0% 0.0 ° Lat:	30 24225304				
Ver   Very   V						
Ver Vegetation   _ Soil   _ or Hydrology   stignificantly disturbed?   Are "Normal Circumstances' present?   Ves (						
Total Number of Dominant Species   That are OBL, FACW, or FAC:   100.0%						
Summary OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation, Soil	, or Hydrology $\square$ s	significantly distu	rbed? Are "	Normal Circumstance	s" present? Yes S NO C
Hydrophytic Vegetation Present?	Are Vegetation, Soil	, or Hydrology r	naturally problem	atic? (If n	eeded, explain any ar	nswers in Remarks.)
Hydrophytic Vegetation Present?	SUMMARY OF FINDINGS - A	Attach site map sho	wing sampli	ing point locati	ons, transects,	, important features, etc.
Is the Sampled Area within a Wetland?   Yes   No   No   No   No   No   No   No   N	Hydrophytic Vogotation Procent?	Vac (•) No ()		1		
Ves	3 . 3 0			Is the Sample		
VEGETATION - Use scientific names of plants.				within a Wetla	nd? Yes 💿 N	lo O
Tree Stratum_(Plot size:	3 03	res © No C				
Tree Stratum (Plot size:	Remarks:					
Tree Stratum (Plot size:						
Tree Stratum (Plot size:						
Absolute   Absolute	<b>VEGETATION</b> - Use scie	entific names of plan				
1.					Dominance Tes	st worksheet:
2.				7	Number of Domi	inant Species
3.					_ That are OBL, FA	ACW, or FAC:3 (A)
4.					Total Number of	Dominant
Saolino/Shrub_Stratum_(Plot size:)         Percent of dominant Species That Are OBL, FACW, or FAC:	1				Species Across A	III Strata:3(B)
Sabilina/Shrub Stratum (Plot size:)					Percent of don	ninant Species
Prevalence Index worksheet:   Total % Cover of: Multiply by:						
1.	Sapling/Shrub Stratum (Plot size:	)		Total Gover	Prevalence Ind	ev worksheet
2.			0	0.0%		
3.	-			0.0%		
4.	3.		0	0.0%	- I · ·	
Herb Stratum (Plot size:   )	4.		0	0.0%		
1. Juncus effusus 25	5		_ 0	0.0%	FACU species	0 x 4 = 0
1. Juncus effusus       25       ✓ 38.5% OBL       Column Totals: _65 (A) _65 (B)         2. Scirpus atrovirens       20       ✓ 30.8% OBL       Prevalence Index = B/A =1.000         3. Typha angustifolia       20       ✓ 30.8% OBL       Hydrophytic Vegetation Indicators:         4.       0       0.0%       Hydrophytic Vegetation Indicators:         5.       0       0.0%       ✓       1 - Rapid Test for Hydrophytic Vegetation         7.       0       0.0%       ✓       3 - Prevalence Index is ≤ 3.0 ¹         8.       0       0.0%       ✓       4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)         10.       0       0.0%       ✓       Problematic Hydrophytic Vegetation ¹ (Explain)         1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation Present?       Yes • No ○	Herb Stratum (Plot size:	)	=	Total Cover	UPL species	x 5 = 0
2. Scirpus atrovirens       20       ✓ 30.8% OBL       Prevalence Index = B/A = 1.000         3. Typha angustifolia       20       ✓ 30.8% OBL       Hydrophytic Vegetation Indicators:         4.       0       0.0%       ✓ 1 - Rapid Test for Hydrophytic Vegetation         5.       0       0.0%       ✓ 2 - Dominance Test is > 50%         7.       0       0.0%       ✓ 3 - Prevalence Index is ≤ 3.0 ¹         9.       0       0.0%       ✓ 3 - Prevalence Index is ≤ 3.0 ¹         10.       0       0.0%       ✓ 3 - Prevalence Index is ≤ 3.0 ¹         4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation ¹ (Explain)         1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation Present?         4 Hydrophytic Vegetation Present?       Yes No	4 1	·	25	38.5% OBL	Column Total	s: 65 (A) 65 (B)
3. Typha angustifolia  4.	0				Drovolono	a Inday P/A 1,000
4.	0					<u> </u>
5.	4		0	0.0%		-
6. 7. 8. 9. 10. Woodv Vine Stratu (Plot size: )  1. 2. 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. 2. 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. 2. 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) □ Problematic Hydrophytic Vegetation ¹ Hydrophytic Vegetation Present?  1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	5		0	0.0%	· ·	
8.			0	0.0%		
9. 10.  Woody Vine Stratu (Plot size: )  1. 2. 3. 4. 5. 5. 5. 5. 5. 6.5 5. 6.5 6.5 6.5 6.5				0.0%		
10.					data in Rem	narks or on a separate sheet)
Woody Vine Stratu (Plot size: )  1. 0 0.0% 2. 0.0% 0 = Total Cover  0 = Total Cover  0 = Total Cover  0 Present?  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes ● No ○					Problemation	c Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratu (Plot size: )	10				- 1 Indicators of	hvdric soil and wetland hvdrology must
2. O O O O O O O O O O O O O O O O O O O	Woody Vine Stratu (Plot size:	)	=	Total Cover		
Vegetation Present? Yes • No •	1		0	0.0%	-	
0 = Total Cover Present? Yes • No ·	2		_ 0	0.0%		
Remarks: (Include photo numbers here or on a separate sheet.)			=	Total Cover		Yes ● No ○
Remarks: (Include photo numbers here or on a separate sheet.)						
	Remarks: (Include photo numbers	s here or on a separate s	heet.)			

Profile Descri	Mat	trix		Redo	ox Features				
(inches)	Color (mois	st) <u>%</u>	Color (r	moist)	<u>%</u> <u>T</u>	vpe 1	Loc2	Texture	Remarks
0-15	10YR 3	3/1 90	10YR	5/6	10	C	M	Silty Clay Loam	
ype: C=Cond lydric Soil II	centration, D=De	epletion, RM=Re	educed Matrix, (	CS=Covered	d or Coated S	Sand Grain	S.	Ladiantes for Broke	
Histosol (A			San	dy Gleyed N	Matrix (S4)				ematic Hydric Soils <sup>3</sup> :
Histic Epip	•			dy Redox (S				Coast Prairie Redox	(A16)
Black Histi			Strip	pped Matrix	(S6)			☐ Dark Surface (S7)	
_	Sulfide (A4)			my Mucky N				☐ Iron Manganese Ma	
	Layers (A5)		Loa	my Gleyed I	Matrix (F2)			☐ Very Shallow Dark	
2 cm Muck		(4.4.4)	<b>✓</b> Dep	oleted Matrix	x (F3)			Other (Explain in R	emarks)
	Below Dark Surfa	ace (A11)		lox Dark Sur					
	Surface (A12)				Surface (F7)			<sup>3</sup> Indicators of hydropl	nytic vegetation and
	ck Mineral (S1) ky Peat or Peat (	<b>53)</b>	Red	lox Depressi	ions (F8)			wetland hydrology unless disturbed	y must be present,
3 CITI WILLER	ky real of real (	33)						unless disturbed	or problematic.
Postrictivo I a	yor (if observe	24)·							
	ayer (if observe	ed):							
Restrictive La Type: Depth (inch Remarks:		ed):						Hydric Soil Present?	Yes   No
Type: Depth (inch Remarks:	nes):	ed):						Hydric Soil Present?	Yes  No
Type: Depth (inch Remarks:	nes):							Hydric Soil Present?	Yes  No
Type: Depth (inch Remarks:  HYDROLO Wetland Hydi	nes):	ors:	d; check all tha	at apply)					Yes  No  No  tors (minimum of two required)
Type: Depth (inch Remarks:  HYDROLO Wetland Hydi Primary Indica	nes):	ors:			d Leaves (B9	2)			tors (minimum of two required)
Type:	nes):	ors:	_ w			<i>)</i> )		Secondary Indica	tors (minimum of two required) Cracks (B6)
Type:	oGY rology Indicate stors (minimum o	ors:	☐ W	/ater-Stained				Secondary Indica Surface Soil (	tors (minimum of two required) Cracks (B6)
Type: Depth (inch Remarks:  HYDROLO Wetland Hydr Primary Indica ✓ Surface W ✓ High Wate	DGY rology Indicate stors (minimum o rater (A1) er Table (A2) (A3)	ors:	□ W □ Ad □ Tr	/ater-Stained quatic Fauna rue Aquatic	a (B13)			Secondary Indica Surface Soil (	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2)
Type:	DGY rology Indicate stors (minimum o rater (A1) er Table (A2) (A3)	ors:	W     Ac   Tr   Hy   Oc	/ater-Stained quatic Fauna rue Aquatic ydrogen Sul xidized Rhiz	a (B13) Plants (B14) Ifide Odor (C cospheres on	1) Living Roo	ots (C3)	Secondary Indica Surface Soil ( Drainage Pati Dry Season V	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2)
Type:	prology Indicate of the state o	ors:	☐ W ☐ Ac ☐ Tr ☐ H <u>!</u> ☐ O: ☐ Pr	Vater-Stained quatic Fauna rue Aquatic ydrogen Sul xidized Rhiz resence of R	a (B13) Plants (B14) Ifide Odor (C cospheres on Reduced Iron	1) Living Roo 1 (C4)		Secondary Indica Surface Soil ( Drainage Pat Dry Season V Crayfish Burn Saturation Vi: Stunted or St	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1)
Type:	prology Indicators (minimum of vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	ors:	W   Ad   Tr   H!   O:   Pr   Re	Vater-Stained quatic Fauna rue Aquatic ydrogen Sul xidized Rhiz resence of R ecent Iron F	a (B13) Plants (B14) Iffide Odor (C cospheres on Reduced Iron	1) Living Roo 1 (C4)		Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vis Stunted or St Geomorphic I	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	pogy rology Indicate stors (minimum o rater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sists (B3) or Crust (B4) sists (B5)	ors:  If one is require	WACA	Vater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Fahin Muck Su	a (B13) Plants (B14) Ifide Odor (Cospheres on Reduced Iron Reduction in Irrace (C7)	1) Living Roo 1 (C4)		Secondary Indica Surface Soil ( Drainage Pat Dry Season V Crayfish Burn Saturation Vi: Stunted or St	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	porcession of the control of the con	ors:  If one is require	W   W   Ac   Tr   Hy   Pr   Re   Tr   G   G	Vater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Rhin Muck Suauge or Wei	a (B13) Plants (B14) Iffide Odor (C cospheres on Reduced Iron Reduction in Irface (C7) II Data (D9)	:1) Living Roo (C4) Tilled Soils		Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vis Stunted or St Geomorphic I	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	pogy rology Indicate stors (minimum o rater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sists (B3) or Crust (B4) sists (B5)	ors:  If one is require	W   W   Ac   Tr   Hy   Pr   Re   Tr   G   G	Vater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Rhin Muck Suauge or Wei	a (B13) Plants (B14) Ifide Odor (Cospheres on Reduced Iron Reduction in Irrace (C7)	:1) Living Roo (C4) Tilled Soils		Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vis Stunted or St Geomorphic I	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	pogy rology Indicato stors (minimum o dater (A1) er Table (A2) er (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) en Visible on Aeria degetated Concav	ors:  If one is require  al Imagery (B7)  ye Surface (B8)	W   Ad   Tr     O:       O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:       O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:       O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:     O:       O:     O:       O:       O:       O:       O:       O:	Vater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Rhin Muck Suauge or Wei	a (B13) Plants (B14) Iffide Odor (C cospheres on Reduced Iron Reduction in Irface (C7) II Data (D9)	:1) Living Roo (C4) Tilled Soils		Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vis Stunted or St Geomorphic I	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	pogy rology Indicator tors (minimum o rater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aeria regetated Concav	ors: of one is require al Imagery (B7) ve Surface (B8) Yes • No	W   Ac   Tr   Hy   O:   Pr   G:   G:   O:	Vater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Rhin Muck Suauge or Wei	a (B13) Plants (B14) Ifide Odor (Coopheres on Reduced Iron Reduction in Irrace (C7) Il Data (D9) In in Remarks	:1) Living Roo (C4) Tilled Soils		Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vis Stunted or St Geomorphic I	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	pogy rology Indicator tors (minimum o rater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aeria regetated Concav	ors: of one is require al Imagery (B7) we Surface (B8)  Yes • No	W   Ac   Fr   Fr   Fr   Fr   Fr   Fr   Fr   F	Vater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Fhin Muck Suauge or Weither (Explain	a (B13) Plants (B14) Iffide Odor (C cospheres on Reduced Iron Reduction in Irrface (C7) Ill Data (D9) In in Remarks Interpretation of the companies of the comp	E1) Living Roo (C4) Tilled Soils	(C6)	Secondary Indica  Surface Soil (  Drainage Pati  Dry Season V  Crayfish Burn  Saturation Vis  Stunted or St  Geomorphic I  FAC-Neutral	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)
Type:	pogy  rology Indicator tors (minimum of ater (A1) er Table (A2) er (A3) erks (B1) Deposits (B2) erits (B3) er Crust (B4) erits (B5) erits (B5) erits (B5) erits (B5) erits (B7) erits (B7) erits (B8)	al Imagery (B7) ve Surface (B8)  Yes  No Yes  No	W   Ac   Tr     Hy   O: O   O: O	/ater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Fhin Muck Su auge or Welther (Explain Depth (inch	a (B13) Plants (B14) Ifide Odor (Coopheres on Reduced Iron Reduction in Irrace (C7) Il Data (D9) In in Remarks Ites):	Living Roo (C4) Tilled Soils s)	(C6)	Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vis Stunted or St Geomorphic I	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) bws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	pogy  rology Indicator tors (minimum of ater (A1) er Table (A2) er (A3) erks (B1) Deposits (B2) erits (B3) er Crust (B4) erits (B5) erits (B5) erits (B5) erits (B5) erits (B7) erits (B7) erits (B8)	al Imagery (B7) ye Surface (B8)  Yes  No Yes  No	W   Ac   Fr   Fr   Fr   Fr   Fr   Fr   Fr   F	/ater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Fhin Muck Su auge or Welther (Explain Depth (inch Depth (inch Depth (inch	a (B13) Plants (B14) Iffide Odor (C cospheres on Reduced Iron Reduction in Irrface (C7) II Data (D9) In in Remarks Ines): Ines): Ines):	Living Rocal (C4) Tilled Soils  S  2  0	(C6)	Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vi: Stunted or St FAC-Neutral	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)
Type:	pogy  rology Indicator  tors (minimum or  fater (A1)  er Table (A2)  fa(A3)  rks (B1)  Deposits (B2)  sits (B3)  or Crust (B4)  sits (B5)  n Visible on Aeria  fegetated Concav  ations:  Present?  resent?  sent?  sent?  sary fringe)	al Imagery (B7) ye Surface (B8)  Yes  No Yes  No	W   Ac   Fr   Fr   Fr   Fr   Fr   Fr   Fr   F	/ater-Stained quatic Faunarue Aquatic ydrogen Sul xidized Rhiz resence of Recent Iron Fhin Muck Su auge or Welther (Explain Depth (inch Depth (inch Depth (inch	a (B13) Plants (B14) Iffide Odor (C cospheres on Reduced Iron Reduction in Irrface (C7) II Data (D9) In in Remarks Ines): Ines): Ines):	Living Rocal (C4) Tilled Soils  S  2  0	(C6)	Secondary Indica Surface Soil ( Drainage Pati Dry Season V Crayfish Burn Saturation Vi: Stunted or St FAC-Neutral	tors (minimum of two required) Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)

Midwest Region - Version 2.0 US Army Corps of Engineers

Project/Site: Hilsboro-Hutchingson		City/Coun	ty: Clinton		Sampling Daf	te: 13-Dec-17
Applicant/Owner: aep			State:	_Oh S	Sampling Point: <b>w-</b>	aeh-20171213-02
Investigator(s): aeh,pjr		Section,	Township, Range:	: S T	R	
Landform (hillslope, terrace, etc.): Hillsio				concave, convex, nor		
Slope: 0.0% 0.0 ° Lat.:	20 252011642	Lor	 ng: 02 0715760	026	Datum:	NAD 83
Soil Map Unit Name: Westboro-Scha					ssification: N/A	
Are climatic/hydrologic conditions on the				xplain in Remarks.)	V	es • No O
Are Vegetation, Soil		ignificantly disturbed?	Are "No	ormal Circumstances'	'present?	es e no c
Are Vegetation  , Soil .	, or Hydrology 🔲 r	aturally problematic?	(If nee	ded, explain any ans	wers in Remarks.)	
SUMMARY OF FINDINGS - A	ttach site map show	wing sampling	point locatio	ns, transects, i	important featu	ıres, etc.
Hydrophytic Vegetation Present?	Yes  No		<u> </u>			
3 . 3 0	Yes  No		Is the Sampled A		_	
Hydric Soil Present?	Yes  No	,	within a Wetland	d? Yes 💿 No	, ()	
Wetland Hydrology Present?	Yes S NO C					
Remarks:						
<b>VEGETATION</b> - Use scie	ntific names of plar					
		Absolute Rel.S	ies? ———— trat. Indicator	Dominance Test	worksheet:	
<u>Tree Stratum</u> (Plot size:		% Cover Cov		Number of Domin	ant Species	
1			0%	That are OBL, FAC	CW, or FAC:	2(A)
2			0%	Total Number of D	Dominant	
3			0%	Species Across All	Strata:	2(B)
5.			0% 0	Percent of domi	nant Species	
5			I Cover	That Are OBL, F		100.0% (A/B)
Sapling/Shrub Stratum (Plot size:	)		Cover	Prevalence Inde	v workshoot.	
1.		0	0%	Total % C		ply by:
2.			0%	OBL species	50 x 1	
3.		0 0	0%	FACW species		
4.		0 0.	0%	FAC species		= 0
5		0 0.	0%	FACU species	0 x 4	= 0
<u>Herb Stratum</u> (Plot size:	)	0 = Tota	I Cover	UPL species	0 x 5	= 0
1 1		30 🗹 46	.2% OBL	Column Totals:	: 65 (A)	80 (B)
0			.1% FACW			
2 0 5 1"			.4% OBL		Index = B/A =	
4		10 15	.4% OBL		etation Indicators:	
5			0%		st for Hydrophytic V	egetation
6		0 0.	0%		ce Test is > 50%	
7		0 0.	0%		ce Index is ≤3.0 <sup>1</sup>	<b>6</b>
8		0 0.	0%	data in Rema	gical Adaptations <del>:</del> arks or on a separat	(Provide supporting e sheet)
9.			0%	Problematic	Hydrophytic Vegeta	tion <sup>1</sup> (Explain)
10			0%	1 Indicators of h	ovdric soil and wetl:	and hydrology must
Woody Vine Stratu (Plot size:	)	65 = Tota	I Cover		ess disturbed or prob	
1.		0 0.	0%			
2			0%	Hydrophytic Vegetation		
		0 = Tota	I Cover	Present?	Yes   No	
				1		
Remarks: (Include photo numbers	here or on a separate s	heet.)				

SOII Sampling Point: w-aeh-20171213-02

Profile Description: (Describe to the Depth Matrix		Red	ox Features		_	
(inches) Color (moist)	% Co	lor (moist)	% Tvpe	1 Loc2	Texture	Remarks
0-15 10YR 3/1	95 10\	′R 5/4	5 C	M	Silty Clay	
rype: C=Concentration, D=Depletion, F Iydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) 5 cm Mucky Peat or Peat (S3)		Sandy Gleyed I Sandy Redox ( Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Depress	Matrix (S4) (S5) x (S6) Mineral (F1) Matrix (F2) ix (F3) urface (F6) Surface (F7)	Grains.	Accation: PL=Pore Lining. M  Indicators for Problen  Coast Prairie Redox ( Dark Surface (S7) Iron Manganese Mas Very Shallow Dark Su Other (Explain in Rer  Indicators of hydrophy wetland hydrology unless disturbed o	natic Hydric Soils <sup>3</sup> :  (A16)  ses (F12)  urface (TF12)  marks)  tic vegetation and must be present,
estrictive Layer (if observed):						
•						
Type:					Hydric Soil Present?	Yes  No
Type:					Hydric Soil Present?	Yes  No
Type:					Hydric Soil Present?	Yes  No
Туре:		_				Yes  No
Type:		Water-Staine			Secondary Indicato	ors (minimum of two required acks (B6)
Type:		Water-Staine Aquatic Faur	na (B13)		Secondary Indicate  Surface Soil Cra  Drainage Patte	ors (minimum of two required acks (B6) rns (B10)
Type:		Water-Staine Aquatic Faur True Aquatic	na (B13) : Plants (B14)		Secondary Indicate  Surface Soil Cra  Drainage Patte  Dry Season Wa	ors (minimum of two required acks (B6) rns (B10) ater Table (C2)
Type:		Water-Staine Aquatic Faur True Aquatic Hydrogen Su	na (B13) : Plants (B14) ulfide Odor (C1)	Destrict (20)	Secondary Indicate  Surface Soil Cr.  Drainage Patte  Dry Season Wa  Crayfish Burrov	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8)
Type:		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi	na (B13) : Plants (B14) ulfide Odor (C1) zospheres on Livii		Secondary Indicate Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) vs (C8) ole on Aerial Imagery (C9)
Type:		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi. Presence of	na (B13) : Plants (B14) ulfide Odor (C1) zospheres on Livii Reduced Iron (C4	)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Street	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi. Presence of Recent Iron	na (B13) : Plants (B14) ulfide Odor (C1) zospheres on Livir Reduced Iron (C4 Reduction in Tiller	)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livin Reduced Iron (C4 Reduction in Tilled urface (C7)	)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Street	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:	[	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livin Reduced Iron (C4 Reduction in Tilled urface (C7)	)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:	[	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livit Reduced Iron (C4 Reduction in Tilled urface (C7) ell Data (D9)	)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We Other (Expla	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livit Reduced Iron (C4 Reduction in Tilled urface (C7) ell Data (D9)	d Soils (C6)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livin Reduced Iron (C4 Reduction in Tiller urface (C7) ell Data (D9) in in Remarks)	) d Soils (C6)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre Geomorphic Po FAC-Neutral Te	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1) osition (D2) est (D5)
Type:	[   [   [   [   [   [   [   [   [   [	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livin Reduced Iron (C4 Reduction in Tilled urface (C7) ell Data (D9) nin in Remarks) hes):	) d Soils (C6)	Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1)
Type:	[   [   [   [   [   [   [   [   [   [	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livit Reduced Iron (C4 Reduction in Tilled urface (C7) ell Data (D9) ini in Remarks) hes): hes):	) d Soils (C6)	Secondary Indicate Surface Soil Cray Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre Geomorphic Po FAC-Neutral Te	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1) osition (D2) est (D5)
Type:	[   [   [   [   [   [   [   [   [   [	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (B14) ulfide Odor (C1) zospheres on Livit Reduced Iron (C4 Reduction in Tilled urface (C7) ell Data (D9) ini in Remarks) hes): hes):	) d Soils (C6)	Secondary Indicate Surface Soil Cray Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit Stunted or Stre Geomorphic Po FAC-Neutral Te	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9) essed Plants (D1) osition (D2) est (D5)

State	Project/Site: Hilsboro-Hutchingson	City/County:	Clinton	Sampling Date: 13-Dec-17
Color   Colo	Applicant/Owner: aep		State: OH	Sampling Point: w-aeh-20171213-03
Color   Colo	Investigator(s): aeh,pjr	Section, To	wnship, Range: S	T R
Solid Map but Name   1995				
Soil Map Unit Name	Slone: 0.00/ 0.0 ° 1.2t 20.2407040	Long		
VEGETATION - Use scientific names of plants.		Long		
Are Vegetation		Vos ( No C		
Sulf				
Summary OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumst	ances" present? Yes S No C
Hydrophytic Vegetation Present?   Yes   No	Are Vegetation , Soil , or Hydrology	naturally problematic?	(If needed, explain a	ny answers in Remarks.)
State   Present?   Yes   No   No   No   No   No   No   No   N	SUMMARY OF FINDINGS - Attach site m	p showing sampling po	int locations, transe	cts, important features, etc.
State   Present?   Yes   No   No   No   No   No   No   No   N				
VEGETATION - Use scientific names of plants.				_
Note	, · · · · · · · · · · · · · · · · · · ·	WIL	hin a Wetland? γes	● No ○
Tree Stratum (Plot size:)				
Absolute   Species   Nature   Species   Nature   Status   Status   Number of Dominant Species   Nature of Dominant Species   Natur	Remarks:			
Absolute   Species   Nature   Species   Nature   Status   Status				
Absolute   Species   Nature   Species   Nature   Status   Status				
Absolute   Stratum (Plot size:     )	<b>VEGETATION</b> - Use scientific names			
Tree Stratum (Plot size:   )				e Test worksheet:
2		% Cover Cover	Status	Dominant Species
3.				BL, FACW, or FAC: (A)
4.			Total Number	er of Dominant
Saolino/Shrub Stratum (Plot size:   )	4		Species Acro	oss All Strata: (B)
Saoling/Shrub Stratum (Plot size:	F .			dominant Species
Sabilino/Shrub Stratum (Plot size:	J		That Are C	
1. Cornus alba 2.	Sanling/Shruh Stratum (Plot size:			Index workshoot
2.		15 🗸 100.0		
3.	-			
4.	-	0 0.0%		
Herb Stratum (Plot size:)   15	4.	0 0.0%		
1. Phalaris arundinacea       85       ✓ 89.5%       FACW         2. Juncus effusus       10       10.5%       OBL         3.       0       0.0%       Hydrophytic Vegetation Indicators:         4.       0       0.0%         5.       0       0.0%         6.       0       0.0%         7.       0       0.0%         8.       0       0.0%         9.       0       0.0%         10.       0       0.0%         Woody Vine Stratu (Plot size: )       )       0       0.0%         1.       0       0.0%         2.       0       0.0%         4. Hydrophytic Vegetation Indicators: Wegetation Indicators: Index is \$1.00       1.0%         4. A Prevalence Index is \$50%       2.0%         4. A Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation 1 (Explain)         1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation Ve	5	00.0%	FACU spe	cies 0 x 4 = 0
1, Phalaris arundinacea       85       ✓ 89.5%       FACW         2, Juncus effusus       10       10.5%       OBL         3.       0       0.0%       Hydrophytic Vegetation Indicators:         4.       0       0.0%       Hydrophytic Vegetation Indicators:         5.       0       0.0%       Image: Column Totals:       110       (A)       210       (B)         4.       0       0.0%       Image: Column Totals:       110       (A)       210       (B)         4.       0       0.0%       Image: Column Totals:       110       (A)       210       (B)         9.       0       0.0%       Image: Column Totals:       110       (A)       210       (B)         Hydrophytic Vegetation Indicators:       Image: Column Totals:       110       (A)       210       (B)         1 - Rapid Test for Hydrophytic Vegetation       Image: Column Totals:       11       (Column Totals:       110       (A)       210       (B)         1 - Rapid Test for Hydrophytic Vegetation       Image: Column Totals:       10       (D)	Herh Stratum (Plot size:	15 = Total C	over UPL speci	ies 0 x 5 = 0
2. Juncus effusus       10       10.5%       OBL       Prevalence Index = B/A = 1.909         3.       0       0.0%       Hydrophytic Vegetation Indicators:         4.       0       0.0%       Hydrophytic Vegetation Indicators:         5.       0       0.0%       1 - Rapid Test for Hydrophytic Vegetation         7.       0       0.0%       2 - Dominance Test is > 50%         ✓ 3 - Prevalence Index is ≤3.0 ¹       4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation ¹ (Explain)         10.       95       = Total Cover       Problematic Hydrophytic Vegetation ¹ (Explain)         ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation	1 Dhalada an malinasa	85 🗸 89.59	6 FACW Column T	otals: 110 (A) 210 (B)
3.	0			
4.			Pievai	<del></del>
5.	1	0 000		•
6.	5	0 0.0%		
8. 0 0.0% 9. 0 0.0% 10. 0 0.0%  Woody Vine Stratu (Plot size: ) 0 0.0% 1. 0 0.0% 2. 0 0.0%  Hydrophytic Vegetation 1 (Provide supporting data in Remarks or on a separate sheet)  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation 1 (Explain)  Hydrophytic Vegetation 1 (Explain)  Hydrophytic Vegetation 1 (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation 1 (Explain)  Hydrophytic Vegetation 1 (Explain)	6			
9. 10.  Woody Vine Stratu (Plot size: )  1.  0 0.0% 95 = Total Cover  0 0.0% 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation  Hydrophytic Vegetation  Hydrophytic Vegetation  Wegetation  Vegetation		00.0%		
10.			data in	Remarks or on a separate sheet)
Woody Vine Stratu (Plot size: ) 95 = Total Cover be present, unless disturbed or problematic.  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  2. 0 0.0% Hydrophytic Vegetation			─	natic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratu (Plot size: )	10		1 Indicator	rs of hydric soil and wetland hydrology must
2. Hydrophytic Vegetation	Woodv Vine Stratu (Plot size:)	<u>95</u> = Total C		
Vegetation Vegetation	1	0 0.0%		
				_
		0 = Total C		Yes ● No ○
				_

SOII Sampling Point: w-aeh-20171213-03

Profile Descri	Matrix		Do	dox Featur	ros			
Depth (inches)	Color (moist)	%	Color (moist)	_%	_Tvpe 1	Loc2	Texture	Remarks
0-14	10YR 3/1	95	10YR 4/6	5	D	M	Silty Clay Loam	
Hydric Soil II  Histosol (A  Histic Epip  Black Histi  Hydrogen  Stratified I  2 cm Muck  Depleted E  Thick Dark	A1) bedon (A2) ic (A3) Sulfide (A4) Layers (A5)		ed Matrix, CS=Cover  Sandy Gleyer Sandy Redox Stripped Mat Loamy Muck Loamy Gleye Depleted Ma Redox Dark S Depleted Dar Redox Depre	d Matrix (S4) (S5) rix (S6) y Mineral (F2 d Matrix (F2) trix (F3) Surface (F6) k Surface (F6)	) 1) 2)	ns.	Accation: PL=Pore Lining. M  Indicators for Problem  Coast Prairie Redox ( Dark Surface (S7) Iron Manganese Mass Very Shallow Dark Surface Other (Explain in Ren  Indicators of hydrophy wetland hydrology in unless disturbed o	natic Hydric Soils <sup>3</sup> :  (A16)  ses (F12)  urface (TF12)  marks)  ttic vegetation and must be present,
Restrictive La Type: Depth (inch Remarks:	nes):						Hydric Soil Present?	Yes  No
Type: Depth (inche) Remarks:	nes):						Hydric Soil Present?	Yes  No
Type:	pager (if observed):  pager (if observed):  pager (if observed):  pager (all observed):  pa	igery (B7)	Water-Stail Aquatic Fat True Aquat Hydrogen S Oxidized Ri Presence o Recent Irot Thin Muck Gauge or V	ic Plants (B1 Sulfide Odor hizospheres f Reduced II	14) on Living Reron (C4) in Tilled Soi )		Secondary Indicato Surface Soil Cra Drainage Patte Dry Season Wa Crayfish Burrov Saturation Visit	ors (minimum of two required) acks (B6) rns (B10) ater Table (C2) avs (C8) ble on Aerial Imagery (C9) assed Plants (D1) assition (D2)

Project/Site: AEP hillsboro-hutchingson	City/County	/: Clinton		Samplin	g Date: 13-Dec-17
Applicant/Owner: AEP		State:	ОН	Sampling Point: _	w-aeh-20171213-04
Investigator(s): aeh, pjr	Section, 1	Township, Range:	: S T	R	
Landform (hillslope, terrace, etc.): Swale		Local relief (d	concave, convex, n	one): concave	
Slope:0.0%0.0 ° Lat.: 39.2818366	Lond	— g.: -83.933832°	15	Datu	ım: NAD 83
Soil Map Unit Name: Cle1A1		-03.733032		assification: NA	
Are climatic/hydrologic conditions on the site typical for this time of y	oora Yes 💿 No (	(If no. e)	kplain in Remarks.)		
	gnificantly disturbed?				Yes ● No ○
			ormal Circumstance	·	
Are Vegetation . , Soil . , or Hydrology . n.	aturally problematic?	(If nee	ded, explain any ar	nswers in Remarks	.)
SUMMARY OF FINDINGS - Attach site map show	ving sampling p	oint locatio	ns, transects,	important fe	eatures, etc.
Hydrophytic Vegetation Present? Yes No O					
Hydric Soil Present? Yes ● No ○		s the Sampled A			
Wetland Hydrology Present? Yes No	l w	vithin a Wetland	d? Yes ● N	lo $\bigcirc$	
Remarks:					
Remarks.					
VEGETATION					
VEGETATION - Use scientific names of plan	ts. Domin				
		rat. Indicator	Dominance Tes	st worksheet:	
1	0 0.0	J1	Number of Domi That are OBL, F	•	1 (A)
2	0 0.0		mat are obc, 17	ACW, OF TAC.	
3.	0 0.0	)%	Total Number of Species Across A		1 (B)
4	0 0.0	)%		otratar	(-/
5	0 0.0	)%		ninant Species FACW, or FAC:	100.0% (A/B)
(-1	= Total	Cover	That Are Obc,	TACW, OF TAC.	
Sapling/Shrub Stratum (Plot size:)			Prevalence Ind		
1 2.	0 0.0				Multiply by:
3.	0 0.0		OBL species FACW species		x 1 = 100 x 2 = 0
4.	0 0.0		FAC species		x = 0 x = 0
5.	0 0.0		FACU species		x 4 = 0
(Plot size: )	0 = Total	Cover	UPL species		x 5 = 0
	100 🗹 100.	.0% OBL	Column Total		(A) 100 (B)
1, Typha angustifolia 2.	0 0.0				<del></del>
3.	0 0.0			e Index = B/A =	,
4.	0 0.0	)%		getation Indicat	
5.	0 0.0	)%		est for Hydrophy	-
6	0 0.0	)%		nce Test is > 509 nce Index is ≤3.0	
7	0 0.0				ons <sup>1</sup> (Provide supporting
8. 9.	0 0.0		data in Ren	narks or on a sep	arate sheet)
10.	0 0.0		☐ Problemation	Hydrophytic Ve	egetation <sup>1</sup> (Explain)
10	0 0.0 100 = Total		<sup>1</sup> Indicators of	hydric soil and v	wetland hydrology must
	= Total	COVEI		less disturbed or	
1	0 0.0	)%	Hudeed C		
2	0 0.0	)%	Hydrophytic Vegetation	v	$\cap$
	0 = Total	Cover	Present?	Yes   No	$\bigcirc$
			I		
Remarks: (Include photo numbers here or on a separate sh	ieet.)				

SOII Sampling Point: w-aeh-20171213-04

De: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.    Coation   PL=Pore Lining, M=Matrix, Cfric Soil Indicators:   Indicators for Problematic Hydric Soi   Indicators for	Depth Matrix		ox Features		_	
pe: C-Concentration, D-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains.  dric Soil Indicators:						Remarks
Histosol (A1) Histosol (A2) Black Histo (A3) Bepleted Below Dark Surface (A11) Bedout Depleted Below Dark Surface (A11) Bedout Depleted Below Dark Surface (A12) Bepleted Dark Surface (A12) Bepleted Below Dark Surface (A12) Bepleted Dark	0-8 IUTK 4/1 90	101K 5/8		IVI	Clay Loan	
Sandy Muck Mineral (S1)	Hric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) Depleted Below Dark Surface (A11)	Sandy Gleyed Sandy Redox ( Stripped Matri: Loamy Mucky Loamy Gleyed Depleted Matr	Matrix (S4) S5) ( (S6) Mineral (F1) Matrix (F2) x (F3) rface (F6)	ins.	Indicators for Probler  Coast Prairie Redox  Dark Surface (S7)  Iron Manganese Mas  Very Shallow Dark St  Other (Explain in Red	natic Hydric Soils <sup>3</sup> : (A16) ses (F12) urface (TF12) marks)
Type:	Sandy Muck Mineral (S1) 5 cm Mucky Peat or Peat (S3)				wetland hydrology	must be present,
POROLOGY  etland Hydrology Indicators: rimary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  True Aquatic Plants (B14)  Water Marks (B1)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Iron Deposits (B5)  Iron Deposits (B5)  Sparsely Vegetated Concave Surface (B8)  Depth (inches):  Irace Water Present?  Yes  No  Depth (inches):  Depth (inches):  Table Present?  Psecondary Indicators (minimum of Secondary Indicators (minimum of Surface Soil Cracks (B6)  Drainage Patterns (B10)  Drainage	strictive Layer (ii observed).					
YDROLOGY    Tetland Hydrology Indicators: rimary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of Surface Water (A1)   Water-Stained Leaves (B9)   Surface Soil Cracks (B6)   Drainage Patterns (B10)   Dra	•					
Algal Mat or Crust (B4)  Iron Deposits (B5)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Sparsely Vegetated Concave Surface (B8)  Teld Observations:  Field Observations:  Furface Water Present?  Ves No  Depth (inches):	Type:				Hydric Soil Present?	Yes   No
urface Water Present? Yes ○ No ○ Depth (inches): Vater Table Present? Yes ○ No ○ Depth (inches):	Type:	☐ Water-Staine ☐ Aquatic Faur ☐ True Aquatic ☐ Hydrogen St ☐ Oxidized Rhi	na (B13) Plants (B14) Ilfide Odor (C1) zospheres on Living F	Poots (C3)	Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burrou Saturation Visi	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ole on Aerial Imagery (C9)
Saturation Present? Yes No Depth (inches): 0	Type:	Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We	na (B13) Plants (B14) Iffide Odor (C1) Zospheres on Living Reduced Iron (C4) Reduction in Tilled Sourface (C7)		Secondary Indicate Surface Soil Cr Drainage Patte Dry Season Wa Crayfish Burror Saturation Visil Stunted or Stre	ors (minimum of two required acks (B6) rns (B10) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)

State   One   Surpling Print   Surpling   Surpling Print   Surpling Prin			City/County:			Jamping Date	13-Dec-17
Landiarm (hillidope, lurrace, etc.): Swale	Applicant/Owner: aep			State:	Oh Sai	mpling Point: w-ael	n-20171213-05
Landiarm (hillidope, lurrace, etc.): Swale	Investigator(s): aeh,pjr		Section, To	wnship, Range:	S T	R	
Salpha   0.0%							_
No   North Name	Slone: 0.00/ 0.0 ° lat	20 205700	Long				D 83
According   Soil		37.273177	Long.	-03.7301740			
An Vegetation			- Vos ( No (	(If no ou		lication: N/A	
Absolute   Solid   One   Hydrology   One   Institute   Provincing   One   On						Van (	■ Na ○
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Prosent?  Yes No No wetiand Hydrology Present?  Yes No	Are Vegetation, Soil	, or Hydrology	significantly disturbed?	Are "No	rmal Circumstances" p	oresent?	
Hydrophytic Vegetation Present?   Yes   No	Are Vegetation, Soil	, or Hydrology	naturally problematic?	(If need	ded, explain any answ	ers in Remarks.)	
Second   Present?   Yes   No   No   Wetland Hydrology Present?   Yes   No   No   No   Wetland Hydrology Present?   Yes   No   No   No   No   No   No   No   N	SUMMARY OF FINDINGS - A	ttach site map sho	wing sampling po	int location	ns, transects, in	nportant features	s, etc.
Second   Present?   Yes   No   No   Wetland Hydrology Present?   Yes   No   No   No   Wetland Hydrology Present?   Yes   No   No   No   No   No   No   No   N						·	
Vegetation Hydrology Present?   Yes   No   No   No   No   No   No   No   N	, , , ,		Ist	the Sampled A		_	
VEGETATION - Use scientific names of plants.	, and the second		wit	hin a Wetland	l? Yes ● No	$\supset$	
Tree Stratum (Plot size:)		Yes © No C					
Absolute   Species   Rel Stratum   (Plot size:   )	Remarks:						
Species   Absolute   Rel Stratum   (Plot size:   )							
Species   Absolute   Rel Stratum   (Plot size:   )							
Absolute   Ret. Strat.   Indicator   Status   Number of Dominant Species   Number of Dominant Specie	<b>VEGETATION</b> - Use scien	ntific names of pla					
Tree Stratum (Plot size:   )					Dominance Test w	vorksheet:	
2.			% Cover Cover		Number of Dominan	it Species	
3.					That are OBL, FACW	/, or FAC:	(A)
4.					Total Number of Do	minant	
Saolino/Shrub Stratum (Plot size:   )	1				Species Across All S	trata:	(B)
Saoling/Shrub_Stratum (Plot size:     )					Percent of domina	ant Species	
Prevalence Index worksheet:   1.	J						00.0% (A/B)
1.       0       0.0%       Total % Cover of: Multiply by:         2.       0       0.0%       OBL species       45       x 1 = 45         3.       0       0.0%       FACW species       35       x 2 = 70         4.       0       0.0%       FACW species       35       x 2 = 70         FAC species       0       x 3 = 0       FACW species       0       x 4 = 0         Herb Stratum (Plot size: )       )       0       Total 8 Cover of: Multiply by:       OBL         1, Typha angustifolia       45       ✓ 56.3% OBL       OBL       UPL species       0       x 4 = 0         2, Echinochloa crus-galli       35       ✓ 43.8% FACW       FACW       Prevalence Index = B/A = 1.438         3.       0       0.0%       O.0%	Sapling/Shrub Stratum (Plot size:	)		ovei	Provalence Index	workshoot:	
2.			0				hv:
3.							
4.			0 0.0%		•		
Herb Stratum (Plot size:)	4		0 0.0%				0
1, Typha angustifolia	5		_ 0	<u> </u>	FACU species	0 x 4 =	0
1, Typha angustifolia       45       ✓ 56.3% OBL       Column Totals: 80 (A) 115 (B)         2, Echinochloa crus-galli       35       ✓ 43.8% FACW       Prevalence Index = B/A = 1.438         3.       0       0.0%       Hydrophytic Vegetation Indicators:         4.       0       0.0%       Hydrophytic Vegetation Indicators:         5.       0       0.0%       Image: Column Totals: 80 (A) 115 (B)         4.       0       0.0%       Hydrophytic Vegetation Indicators:         ✓ 1 - Rapid Test for Hydrophytic Vegetation       ✓ 2 - Dominance Test is > 50%         ✓ 2 - Dominance Test is > 50%       ✓ 3 - Prevalence Index is ≤ 3.0 1         4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation 1 (Explain)         1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation Vegetation Vegetation	Herb Stratum (Plot size:	)	0 = Total C	over	UPL species	0 x 5 =	0
2. Echinochloa crus-gallii       35       ✓ 43.8%       FACW       Prevalence Index = B/A = 1.438         3.       0       0.0%       Hydrophytic Vegetation Indicators:         4.       0       0.0%       Indicators         5.       0       0.0%       Indicators       Indicators       Indicators       Indicators       Indicators       Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         1.       0       0.0%       Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	1 Tombe	·	45 🗸 56.39	6 OBL	Column Totals:	80 (A)	115 (B)
3.	2				Dravalanca In		
4.							.438_
5.	4						
7.  8.  9.  10.  Woody Vine Stratu (Plot size: )  1.  2.  0 0 0.0%  80 = Total Cover  0 0.0%  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation  1 Vegetation  1 Hydrophytic Vegetation  1 Vegetation  1 Vegetation  1 Vegetation  1 Hydrophytic Vegetation  1 Vegetation	5		0 0.0%	) )			tation
8. 0 0.0% 9. 0 0.0% 10. 0 0.0%  Woody Vine Stratu (Plot size: ) 0 0.0% 1. 0 0.0% 2. 0 0.0%  Bo = Total Cover   Hydrophytic Vegetation   Vegeta			0 0.0%	<u> </u>			
9. 10.  Woody Vine Stratu (Plot size: )  1. 2.  0 0.0% 80 = Total Cover  0 0.0% 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation 1 (Explain)  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Vegetation Vegetation			_ 0	<u> </u>			
10.					data in Remark	cal Adaptations + (Pr ks or on a separate sh	eet)
Woody Vine Stratu (Plot size: )  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. 0 0.0% Hydrophytic Vegetation					Problematic Hy	ydrophytic Vegetation	n <sup>1</sup> (Explain)
Woody Vine Stratu (Plot size: )	10				1 Indicators of hy	dric soil and wetland	hvdrology must
2. Hydrophytic Vegetation	Woody Vine Stratu (Plot size:	)	80 = Total C	over			
2. Hydrophytic Vegetation	1		0 0.0%	) )			
				<u> </u>	Venetation		
			0 = Total C	over		'es ● No ○	

inches)	Matr Color (moist		Color	(moist)	ox Feature %	Tvpe 1	Loc2	Texture	Remarks
-15 _	10YR 4/	90	10YR	5/8			М	Clay Loam	
ric Soil In Histosol (A' Histic Epipe Black Histic Hydrogen S Stratified La 2 cm Muck Depleted Ba Thick Dark Sandy Muck	1) edon (A2) c (A3) Sulfide (A4) ayers (A5)	e (A11)	Sa Sa Str Lo Lo Lo Pe	ndy Gleyed ndy Redox ( ripped Matri: amy Mucky amy Gleyed pleted Matr dox Dark Su	Matrix (S4) (S5) x (S6) Mineral (F1) Matrix (F2) ix (F3) urface (F6) Surface (F7		IS.	Aocation: PL=Pore Lining. M  Indicators for Problem  Coast Prairie Redox ( Dark Surface (S7)  Iron Manganese Mass  Very Shallow Dark Su  Other (Explain in Ren  Indicators of hydrophy wetland hydrology r unless disturbed or	natic Hydric Soils <sup>3</sup> :  A16)  ses (F12)  urface (TF12)  narks)  tic vegetation and must be present,
5 cm Mucky	`	'')							
trictive Lay	yer (if observed								`
strictive Lay Type: Depth (inche	yer (if observed							Hydric Soil Present?	Yes  No
strictive Lay Type: Depth (inche	yer (if observed							Hydric Soil Present?	Yes  No
Type: Depth (inche	yer (if observed	):						Hydric Soil Present?	Yes  No
Type: Depth (inche emarks:  DROLOGetland Hydromary Indicate	gy (if observed es):	): s: one is require						Secondary Indicato	rs (minimum of two required)
Type:	GY ology Indicators ors (minimum of later (A1) Table (A2) (A3)	): s: one is require		Water-Staine Aquatic Faur True Aquatio	Plants (B14	1)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2)
Type:	GY  ology Indicator: ors (minimum of ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A4) (A5) (A5) (A5) (A5) (A6) (A6) (A6) (A7) (A7) (A8) (A8) (A8) (A9) (A9) (A9) (A9) (A9) (A9) (A9) (A9	s: one is require		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We	na (B13) : Plants (B14 ulfide Odor ( zospheres o Reduced Iro Reduction ir	(i) C1) n Living Ro on (C4) n Tilled Soils		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Type:	GY  ology Indicators ors (minimum of ater (A1)  r Table (A2) (A3) cs (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial egetated Concave	S: one is required Imagery (B7) Surface (B8)		Water-Staine Aquatic Faur True Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We	na (B13) c Plants (B14 ulfide Odor ( zospheres o Reduced Iro Reduction ir urface (C7) ell Data (D9)	(i) C1) n Living Ro on (C4) n Tilled Soils		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Type:	GY  ology Indicators ors (minimum of ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial egetated Concave  tions:	s: Since is required Surface (B8) Surface (B8)		Water-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) c Plants (B14 ulfide Odor ( zospheres o Reduced Iro Reduction ir urface (C7) ell Data (D9) in in Remarl	(I) C1) In Living Ro In (C4) In Tilled Soils In Ks)		Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Type:	GY  ology Indicators ors (minimum of ater (A1) r Table (A2) (A3) os (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial egetated Concave  tions: Present? Yesent? Yesent?	Imagery (B7) Surface (B8)		Water-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13)  Plants (B14)  Plants (B14)  Iffide Odor (  zospheres o  Reduced Iro  Reduction ir  urface (C7)  Planta (D9)  In in Remark  Thes):  These in the control in the control  These in the control  The control	(I) (C1) In Living Ro on (C4) In Tilled Soils (ks)	s (C6)	Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) ssed Plants (D1) sition (D2)
Type:	GY  ology Indicators ors (minimum of ater (A1)  Table (A2) (A3) os (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial egetated Concave  tions: Present? Yesent? Yesent?	Imagery (B7) Surface (B8)  Les Nies Nies Nies Nies		Water-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dividized Rhi Presence of Recent Iron Thin Muck S Gauge or We Other (Expla	na (B13) c Plants (B14 ulfide Odor ( zospheres o Reduced Iro Reduction ir urface (C7) ell Data (D9) in in Remarl hes): hes):	(I) (C1) In Living Ro In (C4) In Tilled Soils (Ks)  1 6 0	wetl	Secondary Indicato Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	rs (minimum of two required) acks (B6) rns (B10) ter Table (C2) vs (C8) ole on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)

Midwest Region - Version 2.0 US Army Corps of Engineers

Project/Site: Hillsboro-Hutchings	City/County: Warren	Sampling Date:14-Dec-17
Applicant/Owner: _AEP	State	: OH Sampling Point: w-jbl-121417-02
Investigator(s): JBL,JTT	Section, Township, Range	: S 0 T 0 R 0
Landform (hillslope, terrace, etc.): Swale	Local relief (	concave, convex, none): concave
Slope: 0.0% / 0.0 ° Lat.: 39.318823	Long.: -83.99265	Datum: NAD 83
Soil Map Unit Name: JoR1B1		NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of	vear? Yes No (If no, e	xplain in Remarks.)
		ormal Circumstances" present? Yes  No
Are Vegetation  , Soil , or Hydrology  r	naturally problematic? (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sho	,	
Hydrophytic Vegetation Present? Yes  No  No		
Hydric Soil Present? Yes  No	Is the Sampled within a Wetlan	
Wetland Hydrology Present? Yes  No  No	within a wetian	u: Yes © No C
Remarks:	I	
VEGETATION - Use scientific names of plan	nts Daminant	
Coc scientific frames of plan	Species?	In
	Absolute Rel.Strat. Indicator % Cover Cover Status	Dominance Test worksheet:
1	0 0.0%	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2		
3	0 0.0%	Total Number of Dominant Species Across All Strata: 3 (B)
4	0 0.0%	
5	0 0.0%	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0 = Total Cover	That Are Obl., FACW, Or FAC.
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1	0 0.0%	Total % Cover of: Multiply by:
2	0 0.0%	OBL species <u>15</u> x 1 = <u>15</u>
4.	0 0.0%	FACW species 45 x 2 = 90
5.	0 0.0%	FAC species $40$ $x = 120$ FACU species $0$ $x = 0$
	0 = Total Cover	FACU species $0$ $x = 0$ UPL species $0$ $x = 0$
Herb Stratum (Plot size:)		
1, Juncus tenuis	40 40.0% FAC	Column Totals:
2. Carex vulpinoidea	25 25.0% FACW	Prevalence Index = B/A = <u>2.250</u>
Eupatorium perfoliatum     Dichanthelium clandestinum	15	Hydrophytic Vegetation Indicators:
5.	0 0.0%	1 - Rapid Test for Hydrophytic Vegetation
6.	0 0.0%	<b>2</b> - Dominance Test is > 50%
7.	0 0.0%	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0 0.0%	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9.	0 0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.	0 0.0%	
	= Total Cover	1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	0 0.0%	
2.	0 0.0%	Hydrophytic
	0 = Total Cover	Vegetation Present? Yes ● No ○
		1
Remarks: (Include photo numbers here or on a separate s	heet.)	

SOIL Sampling Point: w-ibl-121417-02

Duefile Deser	intinu (Donoulli a t	- 41		Ale e fee elf		- 6: Al-		
Profile Descr	•	•				ntirm the	e absence of indicators.)	
Depth	Matrix			lox Featu	-			5
(inches)	Color (moist)		Color (moist)	%	Type	Loc <sup>2</sup>	Texture	Remarks
0-14	7.5YR 5/1		7.5YR 4/6	10		М	Silty Clay Loam	
<sup>1</sup> Type: C=Cond	centration, D=Deplet	ion, RM=Reduc	ed Matrix, CS=Covere	ed or Coat	ed Sand Gra	ins.	Location: PL=Pore Lining.	M=Matrix.
Hydric Soil I	ndicators:						Indicators for Proble	matic Hydric Soils 3.
Histosol (	A1)		Sandy Gleyed	Matrix (S	4)			
Histic Epip	pedon (A2)		Sandy Redox		,		Coast Prairie Redox	(A16)
☐ Black Hist	ic (A3)		Stripped Matri				Dark Surface (S7)	
Hydrogen	Sulfide (A4)		Loamy Mucky		<b>-1</b> \		Iron Manganese Ma	sses (F12)
Stratified	Layers (A5)		Loamy Gleyed				☐ Very Shallow Dark S	Surface (TF12)
2 cm Muc	k (A10)		✓ Depleted Mati		2)		Other (Explain in Re	marks)
☐ Depleted	Below Dark Surface (	(A11)			`			•
	k Surface (A12)		Redox Dark S				2	
	ck Mineral (S1)		Depleted Dark				<sup>3</sup> Indicators of hydroph	
	ky Peat or Peat (S3)		✓ Redox Depres	sions (F8)			wetland hydrology unless disturbed	
	ayer (if observed):							- T
Type:	ayer (ii observed).							
	hoo).						Hydric Soil Present?	Yes ● No ○
Depth (incl	nes):							
Remarks:								
HYDROLO	GY							
Wotland Hyd	rology Indicators:							
_	ators (minimum of or		hack all that annly)				Secondary Indicat	ors (minimum of two required)
		ic is required, e			(DO)			
Surface W	. ,		☐ Water-Stain		(B9)		Surface Soil C	, ,
	er Table (A2)		Aquatic Fau				✓ Drainage Patte	
✓ Saturation			True Aquati					ater Table (C2)
Water Ma	• •		Hydrogen S				Crayfish Burro	
	Deposits (B2)				s on Living R	oots (C3)		ible on Aerial Imagery (C9)
Drift Depo			Presence of					essed Plants (D1)
	or Crust (B4)		Recent Iron	Reduction	n in Tilled So	ils (C6)	Geomorphic P	osition (D2)
Iron Depo	sits (B5)		Thin Muck S	urface (C	7)		✓ FAC-Neutral T	est (D5)
Inundatio	n Visible on Aerial Im	nagery (B7)	☐ Gauge or W	ell Data ([	09)			
Sparsely \	/egetated Concave S	urface (B8)	Other (Expla	ain in Rem	arks)			
Field Observa		_						
Surface Water	Present? Yes	s 🔾 No 🖲	Depth (inc	hes):				
Water Table P		s • No C	Depth (inc	hes).	8			
Saturation Pre		s • No C				Wet	land Hydrology Present?	Yes   No
(includes capil	lary fringe)				5			
Describe Rec	orded Data (strear	n gauge, mon	itoring well, aerial	photos, <sub>I</sub>	previous in:	spections	s), if available:	
Remarks:								

Project/Site: Hillsboro-Hutchings	City/Cou	nty: Warren	Sampling Date: 14-Dec-17
Applicant/Owner: AEP		State:	OH Sampling Point: w-jbl-121417-01
Investigator(s): JBL,JTT	Section	n, Township, Range:	S 0 T 0 R 0
Landform (hillslope, terrace, etc.): Swale		Local relief (c	concave, convex, none): flat
Slope: 0.0% / 0.0 ° Lat.: 39.327232	L	ong.: -84.007096	Datum: NAD 83
Soil Map Unit Name: HiD2			NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of y	<sub>rear?</sub> Yes ● No	o (If no, ex	cplain in Remarks.)
	gnificantly disturbed		ormal Circumstances" present?
Are Vegetation, Soil, or Hydrology na	aturally problematic	? (If need	ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show		`	
Hydrophytic Vegetation Present? Yes  No			
Hydric Soil Present? Yes  No		Is the Sampled A within a Wetland	
Wetland Hydrology Present? Yes   No		within a wetiand	·· Yes ♥ No ○
Remarks:			
VEGETATION - Use scientific names of plan	ts. Don	ninant	
	Spe	strat. Indicator	Dominance Test worksheet:
		over Status	Number of Dominant Species
1	_0	0.0%	That are OBL, FACW, or FAC:
2		0.0%	Total Number of Dominant
3		0.0%	Species Across All Strata: 3 (B)
4 5.		0.0%	Percent of dominant Species
J		0.0% tal Cover	That Are OBL, FACW, or FAC: 66.7% (A/B)
_Sapling/Shrub Stratum (Plot size:		tai covei	Prevalence Index worksheet:
1.		0.0%	Total % Cover of: Multiply by:
2.		0.0%	OBL species 13 x 1 = 13
3.	0	0.0%	FACW species 65 x 2 = 130
4.	0	0.0%	FAC species $5 \times 3 = 15$
5	0	0.0%	FACU species 20 x 4 = 80
Herb_Stratum_(Plot size:	= To	tal Cover	UPL species
1. Scirpus atrovirens	5	4.9% OBL	Column Totals: 103 (A) 238 (B)
2. Agrostis stolonifera	15 🗌 1	14.6% FACW	Prevalence Index = B/A = 2.311
3. Apocynum cannabinum	5	4.9% FAC	
4. Cyperus esculentus	10	9.7% FACW	Hydrophytic Vegetation Indicators:
5. Festuca arundinacea	20 🚺 1	19.4% FACU	<ul><li> 1 - Rapid Test for Hydrophytic Vegetation</li><li> 2 - Dominance Test is &gt; 50%</li></ul>
6. Juncus effusus		7.8% OBL	✓ 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
7. Carex vulpinoidea		19.4% FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8. Dichanthelium clandestinum 9.		19.4% FACW	data in Remarks or on a separate sheet)
10.		0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
		0.0% tal Cover	1. Indicators of hydric soil and wetland hydrology must
	= 10	tai OUVEI	be present, unless disturbed or problematic.
1,	_0	0.0%	Hudunukudin
2	_0	0.0%	Hydrophytic Vegetation
	0 = To	tal Cover	Present? Yes No
Remarks: (Include photo numbers here or on a separate sh	neet.)		

SOIL Sampling Point: w-ibl-121417-01

Depth (inches)         Matrix         Redox Features           0-3         10YR         4/3         95         10YR         4/6         5         C           3-14         10YR         4/2         80         10YR         4/6         20         C	Loam Loam
0-3 10YR 4/3 95 10YR 4/6 5 C	Loam
	Loam
Type, C. Consentration, D. Denletien, DM. Deduced Matrix, CC, Covered or Costed Sand Crains	2 costions DI Porcellining M Matrix
Fype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Hydric Soil Indicators:	4ocation: PL=Pore Lining. M=Matrix.
Histosol (A1)  Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histic Epipedon (A2)  Sandy Redox (S5)	Coast Prairie Redox (A16)
Black Histic (A3)  Stripped Matrix (S6)	Dark Surface (S7)
Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)	☐ Iron Manganese Masses (F12)
Stratified Layers (A5)  Loamy Gleyed Matrix (F2)	☐ Very Shallow Dark Surface (TF12)
2 cm Muck (A10) Loanly Gleyed Matrix (F2)  Depleted Matrix (F3)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)	
Thick Dark Surface (A12)  Depleted Dark Surface (F7)	3 Indicators of hydrophytic vegetation and
Sandy Muck Mineral (S1)  Sandy Muck Mineral (S1)  Redox Depressions (F8)	Indicators of hydrophytic vegetation and wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3)	unless disturbed or problematic.
Restrictive Layer (if observed):	
Type:	
Depth (inches):	Hydric Soil Present? Yes ● No ○
IVDDOLOGV	
IYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
✓ High Water Table (A2)	☐ Drainage Patterns (B10)
✓ Saturation (A3) ☐ True Aquatic Plants (B14)	☐ Dry Season Water Table (C2)
Water Marks (B1)	Crayfish Burrows (C8)
Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots	
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (Co	d  =
Iron Deposits (B5)	✓ FAC-Neutral Test (D5)
Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Gauge or Well Data (D9)	✓ FAC-Neutral Test (D5)
Iron Deposits (B5) Thin Muck Surface (C7)	✓ FAC-Neutral Test (D5)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	✓ FAC-Neutral Test (D5)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	✓ FAC-Neutral Test (D5)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present?  Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches):	✓ FAC-Neutral Test (D5)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present?  Yes No Depth (inches):  Button Deposits (B5)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Button Depth (inches):  Depth (inches):  Button Depth (inches):	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present?  Water Table Present?  Yes No Depth (inches):  Saturation Present?  Yes No Depth (inches):  Benth (inches):  A Depth (inches):  Benth (inche	✓ FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes   No
Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No  Depth (inches):  Saturation Present?	Wetland Hydrology Present? Yes ● No ○
Iron Deposits (B5)	Wetland Hydrology Present? Yes ● No ○
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present?  Yes No Depth (inches):  Button Deposits (B5)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches):  Button Depth (inches):  Depth (inches):  Button Depth (inches):	Wetland Hydrology Present? Yes ● No ○

Project/Site: Hillsboro-Hutchings		C	ity/County:	Warren	Sampling Date: 13-Dec-17
Applicant/Owner: AEP				State:	OH Sampling Point: w-jbl-121317-03
Investigator(s): JBL, JTT			Section, Town	 nship, Range:	S 0 T 0 R 0
Landform (hillslope, terrace, etc.): Swale			ı	Local relief (c	concave, convex, none): convex
Slope: 0.0% / 0.0 ° Lat.:	39 339985		Long ·	-84.027906	Datum: NAD 83
Soil Map Unit Name: _JoR1B2, RpC2	37.337703			-04.027700	NWI classification: N/A
Are climatic/hydrologic conditions on the s	site typical for this time of	yeara Yes	No ○	(If no ex	xplain in Remarks.)
Are Vegetation . , Soil .		ignificantly di		•	ormal Circumstances" present?
Are Vegetation , Soil	, or Hydrology $\Box$ r	naturally prob	lematic?	(If need	ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - At	tach site map sho	wing sam	pling poin	ıt locatioı	ns, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes   No				
Hydric Soil Present?	Yes ● No ○			Sampled A	
Wetland Hydrology Present?	Yes ● No ○		Within	n a Wetland	d? Yes ● No ○
Remarks:					
<b>VEGETATION</b> - Use scier	ntific names of plar	nts.	Dominant		
		Absolute	Species? Rel.Strat.	Indicator	Dominance Test worksheet:
_Tree Stratum_(Plot size:	)	% Cover		Status	Number of Dominant Species
1		0	0.0%		That are OBL, FACW, or FAC:3 (A)
2		0	0.0%		Total Number of Dominant
3		0	0.0%		Species Across All Strata: 3 (B)
4		0	0.0%		
5		0	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
(5)	,	0	= Total Cove	er	That Are OBE, Thow, or Tho.
Sapling/Shrub Stratum (Plot size:	)				Prevalence Index worksheet:
1		0	0.0%		Total % Cover of: Multiply by:
2		0	0.0%		OBL species <u>32</u> x 1 = <u>32</u>
3			0.0%		FACW species <u>66</u> x 2 = <u>132</u>
5.			0.0%		FAC species $0 \times 3 = 0$
J					FACU species 10 x 4 = 40
<u>Herb Stratum</u> (Plot size:	)	0	= Total Cove	er	UPL species $0 \times 5 = 0$
1. Juncus effusus		25	23.1%	OBL	Column Totals: <u>108</u> (A) <u>204</u> (B)
2. Cyperus esculentus		12	11.1%	FACW	Prevalence Index = B/A =1.889_
		18	16.7%	FACW	Hydrophytic Vegetation Indicators:
4. Symphyotrichum novae-angliae			9.3%	FACW	✓ 1 - Rapid Test for Hydrophytic Vegetation
			13.9%	FACW	✓ 2 - Dominance Test is > 50%
6. Asclepias incarnata			6.5%	OBL	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7. Symphyotrichum ericoides 8. Carex vulpinoidea			9.3%	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9. Carex vuipinoidea		11	10.2%	FACW	data in Remarks or on a separate sheet)
10.			0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
-		108	= Total Cove		1. Indicators of hydric soil and wetland hydrology must
	)		- Total Cove	<b>5</b> 1	be present, unless disturbed or problematic.
1		0	0.0%		L.,
2		0	0.0%		Hydrophytic Vegetation
		0	= Total Cove	er	Present? Yes No
					L
Remarks: (Include photo numbers	here or on a separate s	heet.)			

SOIL Sampling Point: w-ibl-121317-03

Profile Desc		Motrix			Dodo	v Eooti	iroc			
Depth (inches)	Color (ı	Matrix moist)	%	Color (mo		x Featu %	Type 1	Loc2	Texture	Remarks
0-4	10YR	4/3	95	10YR	4/6	5	С	M	Silty Clay Loam	
4-13	10YR	5/2		10YR	4/6	15			Clay Loam	
Type: C=Cor	ncentration, D	=Depletion	, RM=Reduc	ed Matrix, CS	=Covered	or Coat	ed Sand Gra	ins.	Location: PL=Pore Lining.	M=Matrix.
Hydric Soil	Indicators:								Indicators for Proble	matic Hydric Soils 3:
Histosol (				Sandy	Gleyed M	latrix (S	4)		Coast Prairie Redox	
	pedon (A2)			Sandy	Redox (S	55)			Dark Surface (S7)	(A10)
Black His	tic (A3) n Sulfide (A4)				ed Matrix				Iron Manganese Ma	asses (F12)
_	Layers (A5)				y Mucky M				Very Shallow Dark	
2 cm Mu					y Gleyed N		2)		Other (Explain in Re	, ,
_	Below Dark S	Surface (A1	1)	✓ Deplet					L Other (Explain III Re	amarks)
_ '	rk Surface (A1	`	• /		Dark Sur		•		2	
_	uck Mineral (S	•			ted Dark S				3 Indicators of hydropl	nytic vegetation and y must be present,
	cky Peat or Pe			<b>✓</b> Redox	Depressi	ons (F8)			unless disturbed	
Postrictivo I	ayer (if obs									
restrictive r	ayer (ii obs	erved):								
Type:	ayer (II obs	erved):								
		erved):							Hydric Soil Present?	Yes  No
Type: Depth (inc Remarks:	ches):	erved):							Hydric Soil Present?	Yes  No
Type:	DGY								Hydric Soil Present?	Yes  No
Type:	DGY	cators:	s required: o	heck all that a	anniv)					
Type:	DGY drology Indiators (minimum	cators:	s required; c	heck all that a		N L payers	(B0)			tors (minimum of two required
Type:	DGY drology Indiators (minimu	cators: um of one i	s required; c	☐ Wat	er-Stained		s (B9)		Secondary Indica	tors (minimum of two required Cracks (B6)
Type:	OGY drology Indiators (minimu. Nater (A1) ter Table (A2)	cators: um of one i	s required; c	☐ Wat	er-Stained atic Fauna	(B13)	,		Secondary Indica Surface Soil C	tors (minimum of two required Cracks (B6) terns (B10)
Type:	DGY drology Indiators (minimulators (minimulator (A1)) ter Table (A2) n (A3)	cators: um of one i	s required; c	Wate Aqua	er-Stained atic Fauna e Aquatic I	ı (B13) Plants (E	314)		Secondary Indica Surface Soil ( Drainage Patt	tors (minimum of two required Cracks (B6) eerns (B10) Vater Table (C2)
Type:	OGY drology Indiators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1)	cators: um of one i	s required; c	☐ Wat ☐ Aqua ☐ True ☐ Hyda	er-Stained atic Fauna e Aquatic I rogen Sulf	a (B13) Plants (E fide Odo	314)	Roots (C3)	Secondary Indica Surface Soil C Drainage Pati Dry Season W Crayfish Burro	tors (minimum of two required Cracks (B6) eerns (B10) Vater Table (C2)
Type:	DGY drology Indiators (minimulators (minimulator (A1)) ter Table (A2) n (A3)	cators: um of one i	s required; c	Wati Aqui True Hydi Oxic	er-Stained atic Fauna e Aquatic I rogen Sulf	a (B13) Plants (E fide Odo ospheres	314) or (C1) s on Living F	Roots (C3)	Secondary Indica Surface Soil ( Drainage Patt Dry Season W Crayfish Burro	tors (minimum of two required Cracks (B6) Jerns (B10) Vater Table (C2) Dws (C8)
Type:	DGY drology Indiators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	cators: um of one i	s required; c	Wate Aquate True Hyde Oxide Pres	er-Stainec atic Fauna e Aquatic I rogen Sulf dized Rhizo sence of R	n (B13) Plants (E fide Odo ospheres educed	314) or (C1) s on Living F		Secondary Indica Surface Soil ( Drainage Patt Dry Season W Crayfish Burro	tors (minimum of two required Cracks (B6) Terns (B10) Vater Table (C2) Dws (C8) Sible on Aerial Imagery (C9) Tressed Plants (D1)
Type:	DGY drology Indiators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	cators: um of one i	s required; c	Wate Aqui	er-Stainec atic Fauna e Aquatic I rogen Sulf dized Rhizo sence of R	a (B13) Plants (E fide Odo ospheres educed eduction	314) or (C1) s on Living F Iron (C4) n in Tilled Sc		Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY  drology Indiators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4)	cators: um of one i		Wate Aqua True Hyde Oxice Pres Rece	er-Stained atic Fauna e Aquatic I rogen Sulf dized Rhize sence of R	e (B13) Plants (Efide Odo pospheres educed reduction	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St Geomorphic F	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY  drology Indiators (minimum) Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5)	cators: um of one i	jery (B7)	Wate Aquate Aqua	er-Stained atic Fauna e Aquatic I rogen Sulf dized Rhize sence of R ent Iron R	n (B13)  Plants (E  fide Odo  pspheres  educed  reduction  rface (C  I Data (I	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St Geomorphic F	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY drology Indiators (minimum Mater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Missible o	cators: um of one i	jery (B7)	Wate Aquate Aqua	er-Stained atic Fauna e Aquatic I rogen Sulf dized Rhize sence of R ent Iron R n Muck Sui ge or Wel	n (B13)  Plants (E  fide Odo  pspheres  educed  reduction  rface (C  I Data (I	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St Geomorphic F	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY  drology Indiators (minimum Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Wegetated Co	cators: um of one i  Aerial Imag	ery (B7) Face (B8)	Wate Aque True Hyde Oxid Pres Rece Thin Gaue	er-Stainec atic Fauna e Aquatic I rogen Sult dized Rhizo dence of R ent Iron R n Muck Sun ge or Wel er (Explair	n (B13) Plants (E fide Odo pospheres educed reduction rface (C I Data (I n in Rem	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St Geomorphic F	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY  drology Indiators (minimum Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Wegetated Co	cators: um of one i  2)  Aerial Imag ncave Surf	gery (B7) Pace (B8)	Wate Aqua True Hyde Oxid Pres Rece Thin Gau Othe	er-Stained atic Fauna e Aquatic I rogen Sulf dized Rhize sence of R ent Iron R n Muck Sui ge or Wel	n (B13) Plants (E fide Odo pospheres educed reduction rface (C I Data (I n in Rem	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St Geomorphic F	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY drology Indiators (minimum Mater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Material (B2) vegetated Co	cators: um of one i  Aerial Imag	gery (B7) Pace (B8)	Wate Aqua True Hyde Oxice Pres Rece Thin Gaue Othe	er-Stainec atic Fauna e Aquatic I rogen Sult dized Rhizo dence of R ent Iron R n Muck Sun ge or Wel er (Explair	a (B13) Plants (Efide Odo pospheres educed reduction I Data (I n in Rem	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)	pils (C6)	Secondary Indica  Surface Soil (  Drainage Patt  Dry Season W  Crayfish Burro  Saturation Vis  Stunted or St  Geomorphic F  FAC-Neutral	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) Dws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)
Type:	DGY  drology Indiators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on V Vegetated Co  vations: r Present? Present?	cators: um of one i  2)  Aerial Imag ncave Surf	ery (B7) ace (B8) No O	Wate Aqua True Hyde Oxic Pres Rece Thin Gaue Othe	er-Stainec atic Fauna e Aquatic I rogen Sull dized Rhize sence of R ent Iron R n Muck Sur ge or Wel er (Explain	a (B13) Plants (E fide Odo pspheres educed reduction rface (C I Data (I n in Rem es):	314) or (C1) s on Living F Iron (C4) n in Tilled So 7) D9) harks)	pils (C6)	Secondary Indica Surface Soil ( Drainage Patt Dry Season V Crayfish Burro Saturation Vis Stunted or St Geomorphic F	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) tows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Type:	DGY  drology Indiators (minimum Mater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Material (B4) vegetated Co vations: r Present? eresent? elsent?	cators: um of one i  Aerial Imag ncave Surfi  Yes  Yes  Yes	jery (B7) ace (B8) No © No C	Wate Aqua True Hyde Oxic Pres Rece Thin Gaue Othe	er-Stainec atic Fauna e Aquatic I rogen Sull dized Rhize sence of R ent Iron R n Muck Sur ge or Wel er (Explair	a (B13) Plants (E fide Odo pospheres educed eductior rface (C) I Data (I n in Rem es): es):	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7) D9) harks)	oils (C6)	Secondary Indica Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or St Geomorphic F FAC-Neutral	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) Dws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)
Type:	DGY  drology Indiators (minimum Mater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Material (B4) vegetated Co vations: r Present? eresent? elsent?	cators: um of one i  Aerial Imag ncave Surfi  Yes  Yes  Yes	jery (B7) ace (B8) No © No C	Wate Aqua True Hyde Oxic Pres Rece Thin Gaue Othe	er-Stainec atic Fauna e Aquatic I rogen Sull dized Rhize sence of R ent Iron R n Muck Sur ge or Wel er (Explair	a (B13) Plants (E fide Odo pospheres educed eductior rface (C) I Data (I n in Rem es): es):	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7) D9) harks)	oils (C6)	Secondary Indica  Surface Soil (  Drainage Patt  Dry Season W  Crayfish Burro  Saturation Vis  Stunted or St  Geomorphic F  FAC-Neutral	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) Dws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)
Type:	DGY  drology Indiators (minimum Mater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Material (B4) vegetated Co vations: r Present? eresent? elsent?	cators: um of one i  Aerial Imag ncave Surfi  Yes  Yes  Yes	jery (B7) ace (B8) No © No C	Wate Aqua True Hyde Oxic Pres Rece Thin Gaue Othe	er-Stainec atic Fauna e Aquatic I rogen Sull dized Rhize sence of R ent Iron R n Muck Sur ge or Wel er (Explair	a (B13) Plants (E fide Odo pospheres educed eductior rface (C) I Data (I n in Rem es): es):	314) or (C1) s on Living F Iron (C4) n in Tilled Sc 7) D9) harks)	oils (C6)	Secondary Indica Surface Soil C Drainage Patt Dry Season W Crayfish Burro Saturation Vis Stunted or St Geomorphic F FAC-Neutral	tors (minimum of two required Cracks (B6) terns (B10) Vater Table (C2) Dws (C8) Sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Fest (D5)

Project/Site: Hillsboro-Hutchings	City/County: Warren	Sampling Date: 13-Dec-17
Applicant/Owner: AEP	State:	OH Sampling Point: w-jbl-121317-01
Investigator(s): JBL, JTT	Section, Township, Range:	S 0 T 0 R 0
Landform (hillslope, terrace, etc.): Lowland		concave, convex, none): concave
Slope: 0.0% / 0.0 ° Lat.: 39.343067	Long.: -84.032802	Datum: NAD 83
Soil Map Unit Name: JoR1B2		NWI classification: PUBGh
	significantly disturbed? Are "No	ormal Circumstances" present?  Yes No O  ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sho	wing sampling point location	ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes   No		
Hydric Soil Present? Yes   No	Is the Sampled A within a Wetland	
Wetland Hydrology Present? Yes  No	within a wetland	Yes © No C
Remarks: pem old pond  VEGETATION - Use scientific names of plan	nts. Dominant	
	Absolute Rel.Strat. Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:)	% Cover Cover Status	Number of Dominant Species
1	0	That are OBL, FACW, or FAC:1(A)
3.	0 0.0%	Total Number of Dominant
4.	0 0.0%	Species Across All Strata:1 (B)
5.	0 0.0%	Percent of dominant Species
	0 = Total Cover	That Are OBL, FACW, or FAC: 100.0% (A/B)
_Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1	0.0%	Total % Cover of: Multiply by:
2	0 0.0%	OBL species x 1 =
3	0 0.0%	FACW species x 2 =0
4	0 0.0%	FAC species 0 x 3 = 0
	0 0.0% 0 = Total Cover	FACU species $0$ $x 4 = 0$ UPL species $0$ $x 5 = 0$
<u>Herb Stratum</u> (Plot size:)		
1, Typha angustifolia	90 90.0% OBL	Column Totals: 100 (A) 100 (B)
2. Leersia oryzoides 3.	10 10.0% OBL	Prevalence Index = B/A = 1.000
4.		Hydrophytic Vegetation Indicators:
5.	0.0%	1 - Rapid Test for Hydrophytic Vegetation
6.	0.0%	2 - Dominance Test is > 50%
7.	0 0.0%	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9. 10.	0 0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.	0 U 0.0%	1. Indicators of hydric soil and wetland hydrology must
_Woodv Vine Stratum_ (Plot size:)	100 = Total Cover	be present, unless disturbed or problematic.
1		Hydrophytic
2	0 0.0%	Vegetation
	= Total Cover	Present? Yes No 🔾
Remarks: (Include photo numbers here or on a separate s	heet.)	

SOIL Sampling Point: w-ibl-121317-01 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Type <sup>1</sup> Color (moist) (inches) % Color (moist) Loc2 % Remarks 10YR 90 10YR 10 С M Silty Clay Loam 0-14 5/2 5/6

Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) 5 cm Mucky Peat or Peat (S3)	Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Loamy Mucky Mineral (F1)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Redox Depressions (F8)	Indicators for Problematic Hydric Soils <sup>3</sup> :  Coast Prairie Redox (A16) Dark Surface (S7) Iron Manganese Masses (F12) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
Restrictive Layer (if observed):  Type:  Depth (inches):  Remarks:		Hydric Soil Present? Yes  No			

## **HYDROLOGY**

Wetland Hydrology Indicat	iors:			
Primary Indicators (minimum	of one is rec	quired; chec	ck all that apply)	Secondary Indicators (minimum of two required)
✓ Surface Water (A1)			☐ Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
✓ High Water Table (A2)			Aquatic Fauna (B13)	Drainage Patterns (B10)
✓ Saturation (A3)			☐ True Aquatic Plants (B14)	Dry Season Water Table (C2)
Water Marks (B1)			☐ Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)			Oxidized Rhizospheres on Living Ro	oots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)			Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)			Recent Iron Reduction in Tilled Soi	Is (C6) Geomorphic Position (D2)
☐ Iron Deposits (B5)			☐ Thin Muck Surface (C7)	FAC-Neutral Test (D5)
☐ Inundation Visible on Aer	ial Imagery	(B7)	Gauge or Well Data (D9)	
Sparsely Vegetated Conca	ave Surface	(B8)	Other (Explain in Remarks)	
			_	
Field Observations:	_			
Surface Water Present?	Yes	No O	Depth (inches): 10	
Water Table Present?	Yes	No	Depth (inches):0	
Saturation Present? (includes capillary fringe)	Yes •	No O	Depth (inches):0	Wetland Hydrology Present? Yes   No
Describe Recorded Data (s	tream gauç	ge, monito	ring well, aerial photos, previous ins	pections), if available:
Remarks:				

Project/Site: Hillsboro-Hutchings	City/County: Warren	Sampling Date:13-Dec-17
Applicant/Owner: _AEP	State:	OH Sampling Point: w-jbl-121317-02
Investigator(s): JBL, JTT	Section, Township, Range	: S 0 T 0 R 0
Landform (hillslope, terrace, etc.): Swale	Local relief (	concave, convex, none): concave
Slope: 0.0% / 0.0 ° Lat.: 39.346221	Long.: -84.038149	Datum: NAD 83
Soil Map Unit Name: WsS1B1	•	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of	voar? Yes No O (If no e	xplain in Remarks.)
		ormal Circumstances" present?
		eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show		
Hydrophytic Vegetation Present? Yes  No		
Hydric Soil Present? Yes No	Is the Sampled	
Wetland Hydrology Present? Yes No	within a Wetland	d? Yes  ● No ○
Remarks:		
Remarks.		
<b>VEGETATION</b> - Use scientific names of plan	nts. Dominant	
	Species? ————————————————————————————————————	Dominance Test worksheet:
	% Cover Cover Status	Number of Dominant Species
1	0 0.0%	That are OBL, FACW, or FAC:3 (A)
2	0 0.0%	THIN I GO IN I
3	0 0.0%	Total Number of Dominant Species Across All Strata: 3 (B)
4	0 0.0%	
5	0 0.0%	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
751	= Total Cover	That Are OBE, FACW, OF FAC.
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1	0 0.0%	Total % Cover of: Multiply by:
2	0 0.0%	OBL species <u>33</u> x 1 = <u>33</u>
4.	0 0.0%	FACW species 65 x 2 = 130
5.	0 0.0%	FAC species $5$ $x = 15$ FACU species $0$ $x = 0$
	0 = Total Cover	
Herb Stratum (Plot size:)		
1, Onoclea sensibilis	15	Column Totals: <u>103</u> (A) <u>178</u> (B)
2. Phalaris arundinacea	25 24.3% FACW	Prevalence Index = B/A = 1.728
3. Leersia oryzoides		Hydrophytic Vegetation Indicators:
4. Carex vulpinoidea 5. Vernonia gigantea	20 19.4% FACW 5 4.9% FAC	✓ 1 - Rapid Test for Hydrophytic Vegetation
6. Juncus effusus	8 7.8% OBL	✓ 2 - Dominance Test is > 50%
7. Solidago gigantea	5 4.9% FACW	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8. Eupatorium perfoliatum	5	4 - Morphological Adaptations 1 (Provide supporting
9.	0 0.0%	data in Remarks or on a separate sheet)
10.	0 0.0%	☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Waste Vine Charles (Plot size:	103 = Total Cover	1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0	2. F. Seemi amose distance of problemation
12.	0 0.0%	Hydrophytic
	0 = Total Cover	Vegetation Present? Yes No
		11030111
Domarke: (Include phote numbers here or on a constant	hoot )	
Remarks: (Include photo numbers here or on a separate s	neet.)	

SOIL Sampling Point: w-ibl-121317-02

Profile Description: (Describe to the depth needed to document the indicator or conf	onfirm the absence of indicators.)
Depth Matrix Redox Features	
(inches) Color (moist) % Color (moist) % Type 1	Loc <sup>2</sup> Texture Remarks
0-12 10YR 4/1 90 10YR 4/6 10	Silty Clay Loam
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grain	ains. 4ocation: PL=Pore Lining. M=Matrix.
Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic Epipedon (A2) Sandy Redox (S5)	Dark Surface (S7)
Black Histic (A3)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)	☐ Iron Manganese Masses (F12)
Ctratified Lovers (AE)	Very Shallow Dark Surface (TF12)
2 cm Muck (A10)	Other (Explain in Remarks)
Depleted Matrix (F3)	Utilei (Explain in Remarks)
Thick Dark Surface (A12)	
Depleted Dark Surface (F/)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sality Muck Milleral (S1)  Redox Depressions (F8)  5 cm Mucky Peat or Peat (S3)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):	
Type:	
Depth (inches):	Hydric Soil Present? Yes ● No ○
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
✓ High Water Table (A2)	Drainage Patterns (B10)
✓ Saturation (A3)	Dry Season Water Table (C2)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)  Oxidized Rhizospheres on Living Ro	Roots (C3) Saturation Visible on Aerial Imagery (C9)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils	pils (C6) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)	FAC-Neutral Test (D5)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Gauge or Well Data (D9)	
Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)	
Field Observations:	
Surface Water Present? Yes No Depth (inches):	_
	-
Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  O	- Wetland Hydrology Present? Yes ● No ○
Surface Water Present?  Water Table Present?  Yes No Depth (inches):  Depth (inches):  Depth (inches):  Saturation Present?  (includes capillary fringe)  Yes No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):	_
Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Depth (inches):  Depth (inches):  Depth (inches):  O	_
Surface Water Present?  Water Table Present?  Yes No Depth (inches):  Depth (inches):  2  Saturation Present? (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections)	_
Surface Water Present?  Water Table Present?  Saturation Present?  (includes capillary fringe)  Yes No Depth (inches):	_

Project/Site: Hillsboro-Hutchings		City/	/County: War	irren	Sampling Date: 12-Dec-17
Applicant/Owner: AEP				State:	OH Sampling Point: w-jbl-121217-02
			ection, Township	, Range:	
Landform (hillslope, terrace, etc.): Lowla			Local	l relief (co	oncave, convex, none): concave
-					Datum: NAD 83
Slope: 0.0% / 0.0 ° Lat.:	39.356645		Long.:84.	.055894	
Soil Map Unit Name: Cle1A					NWI classification: N/A
Are climatic/hydrologic conditions on the	site typical for this time of y	<sub>/ear?</sub> Yes ⋐	<sup>y</sup> No ○ (	(If no, exp	plain in Remarks.)
Are Vegetation , Soil		ignificantly distu		Are "Nor	rmal Circumstances" present? Yes   No
Are Vegetation , Soil .		aturally problem			led, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A	ttach site map shov	ving sampl	ling point lo	ocation	ns, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes ● No ○				
Hydric Soil Present?	Yes ● No ○		Is the Sar within a \		
Wetland Hydrology Present?	Yes ● No ○				. Tes C NO C
Remarks:					
<b>VEGETATION</b> - Use scie	ntific names of plan		Dominant		
		Absolute	Species? — Rel.Strat. Inc	dicator	Dominance Test worksheet:
(Plot size:		% Cover		tatus	Number of Dominant Species
1					That are OBL, FACW, or FAC: 2 (A)
2			0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: (B)
4 5.		0	0.0%		Percent of dominant Species
3		0	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
_Sapling/Shrub_Stratum (Plot size:	1	0 =	= Total Cover	⊢	
		0	0.007		Prevalence Index worksheet:
1 2.		_	0.0%		Total % Cover of: Multiply by:  OBL species 80 x 1 = 80
3.		0 [	0.0%		
4.		0 [	0.0%		
5.		0 [	0.0%		FAC species $0$ $x = 0$ FACU species $15$ $x = 60$
(5)	,		= Total Cover		UPL species $0 \times 5 = 0$
Herb Stratum (Plot size:	)		_		
1. Typha angustifolia				BL	Column Totals: <u>105</u> (A) <u>160</u> (B)
_				BL	Prevalence Index = $B/A = \underline{1.524}$
3. Setaria faberi				ACU -	Hydrophytic Vegetation Indicators:
4. Solidago gigantea 5. Eupatorium perfoliatum		10		ACW_	✓ 1 - Rapid Test for Hydrophytic Vegetation
6		0 0	9.5% OE	BL	<b>✓</b> 2 - Dominance Test is > 50%
7.		0 [	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		0	0.0%		4 - Morphological Adaptations 1 (Provide supporting
9.			0.0%		data in Remarks or on a separate sheet)
10.		0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			= Total Cover		1 Indicators of hydric soil and wetland hydrology must
_Woody Vine Stratum (Plot size:			$\neg$	-	be present, unless disturbed or problematic.
1		_ 0	0.0%		Hydrophytic
2		0	0.0%		Hydrophytic Vegetation
		0 =	= Total Cover		Present? Yes   No
Remarks: (Include photo numbers	here or on a separate sh	neet.)			
1					

SOIL Sampling Point: w-ibl-121217-02

Profile Desc	ription: (Describ	e to the depth	needed to document	the indi	cator or co	nfirm the	e absence of indicators.)	
Depth	Mat			lox Featu			_	
(inches)	Color (mois		Color (moist)	%	Tvpe 1	Loc <sup>2</sup>	Texture	Remarks
0-13	10YR 4	/2 98	10YR4/4	3			Loam	
				-				
-								
<sup>1</sup> Type: C=Cor	ncentration, D=De	pletion, RM=Redu	uced Matrix, CS=Covere	ed or Coat	ed Sand Gra	ains.	Location: PL=Pore Lining	M=Matrix.
Hydric Soil	Indicators:						Indicators for Proble	ematic Hydric Soils <sup>3</sup> :
Histosol	• •		Sandy Gleyed		1)		Coast Prairie Redox	(A16)
Histic Epi	ipedon (A2)		Sandy Redox				Dark Surface (S7)	()
	n Sulfide (A4)		Stripped Matri				☐ Iron Manganese Ma	asses (F12)
	Layers (A5)		Loamy Mucky				Very Shallow Dark	
2 cm Mu			Loamy Gleyed		2)		Other (Explain in R	emarks)
	Below Dark Surfa	ce (A11)	✓ Depleted Matr	` '				,
	rk Surface (A12)		Redox Dark S	•	,		3	
Sandy M	uck Mineral (S1)		Depleted Dark Redox Depres		F/)		Indicators of hydrop	hytic vegetation and y must be present,
5 cm Mu	cky Peat or Peat (	S3)	Redox Depres	310113 (1 0)			unless disturbed	
Restrictive L	ayer (if observe	ed):						
Type:								
Depth (inc	ches):						Hydric Soil Present?	Yes ● No ○
Remarks:								
HYDROL	OGY							
Wetland Hyd	drology Indicate	ors:						
			check all that apply)				Secondary Indica	tors (minimum of two required)_
✓ Surface \	Water (A1)		Water-Stain	ed Leaves	(B9)		Surface Soil (	Cracks (B6)
	ter Table (A2)		Aquatic Fau	na (B13)			☐ Drainage Pat	terns (B10)
✓ Saturatio	n (A3)		True Aquati	c Plants (E	314)		☐ Dry Season V	Vater Table (C2)
☐ Water Ma	arks (B1)		Hydrogen S	ulfide Odo	r (C1)		Crayfish Burr	ows (C8)
Sedimen	t Deposits (B2)		Oxidized Rh	izospheres	on Living F	Roots (C3)	Saturation Vi	sible on Aerial Imagery (C9)
☐ Drift Dep	osits (B3)		Presence of	Reduced	Iron (C4)		Stunted or St	ressed Plants (D1)
Algal Mat	t or Crust (B4)		Recent Iron	Reduction	in Tilled So	oils (C6)	Geomorphic I	Position (D2)
Iron Dep	osits (B5)		Thin Muck S	urface (C	7)		FAC-Neutral	Test (D5)
Inundation	on Visible on Aeria	l Imagery (B7)	Gauge or W	ell Data ([	9)			
Sparsely	Vegetated Concav	e Surface (B8)	Other (Expla	ain in Rem	arks)			
Field Observ		Yes   No						
Surface Wate				hes):	1	_		
Water Table F	Present?	Yes O No	Depth (inc	hes):		_		Yes   No
Saturation Pro		Yes O No	Depth (inc	hes):		Wet	land Hydrology Present?	res S No C
(includes capi	iliai y iririge)		onitoring well, aerial		nrevious in	snections	c) if available:	
Describe Ket	ooraca Data (Sti	cam gauge, III	Antorning well, aerial	ριτοιος,	or evious III	ispouliuris	on avanavi∈.	
Remarks:								
remarks.								

Project/Site: Hillsboro-Hutchings		City/Co	ounty: Warren		Sampling Date: 11-Dec-17
Applicant/Owner: AEP			State:	OH Samplin	ng Point: w-jbl-121117-02
nvestigator(s): JBL, JTT		Secti	on, Township, Range:	: S 0 T 0	R 0
andform (hillslope, terrace, etc.): Poth			Local relief (	concave, convex, none): co	oncave
Slope:0.0% /0.0_ ° Lat.:	39.362935		Long.: -84.072008		Datum: NAD 83
Soil Map Unit Name: JoR1B2	37.302733		29.19.1	NWI classification	
Are climatic/hydrologic conditions on the	aita tuniaal far thia t	ima af waar? Yes •	No O (If no ex	xplain in Remarks.)	JII. PUBGII
Are Vegetation, Soil	, or Hydrology	significantly disturb			nt? Yes • No •
		_		ormal Circumstances" presei	••••
Are Vegetation, Soil	, or Hydrology	naturally problemat	tic? (If nee	eded, explain any answers in	ı Remarks.)
SUMMARY OF FINDINGS - A	ttach site map	showing sampling	ng point location	ns, transects, impo	rtant features, etc.
Hydrophytic Vegetation Present?	Yes   No	)			
Hydric Soil Present?	Yes ● No ○		Is the Sampled A		
Wetland Hydrology Present?	Yes ● No ○		within a Wetland	d? Yes ● No ○	
Remarks:			l		
old pond					
•					
VECETATION	ntific nonces	f mlamta			
VEGETATION - Use scie	ntine names o	•	ominant pecies? ————	T	
_Tree Stratum_(Plot size:	)		el.Strat. Indicator Cover Status	Dominance Test works	sheet:
1			0.0%	Number of Dominant Spe That are OBL, FACW, or I	
2			0.0%	That are ODE, TAOW, OF	
3.			0.0%	Total Number of Dominal Species Across All Strata:	
4.			0.0%	Species Norces 7th Othata.	
5			0.0%	Percent of dominant S That Are OBL, FACW,	
		0 = 1	Total Cover	That Ale Obl., FACW,	or FAC (**-7
Sapling/Shrub Stratum (Plot size:	)			Prevalence Index work	(sheet:
			100.0% OBL	Total % Cover o	
2. 3.			0.0%		105 x 1 = 105
4.		0	0.0%	·	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
5.		0	0.0%		$\frac{0}{0}$ $x = 0$
Unit of the (Diot size)			Total Cover		0 x 5 = 0
<u>Herb Stratum</u> (Plot size:	/	90	94.7% OBL		105 (A) 105 (B)
2			5.3% OBL		
3.			0.0%	Prevalence Index	
4.		0	0.0%	Hydrophytic Vegetation	
5.		0	0.0%	✓ 1 - Rapid Test for H	
6.		0	0.0%	2 - Dominance Test	
7.		0	0.0%	3 - Prevalence Inde	
8.			0.0%		Adaptations 1 (Provide supporting on a separate sheet)
9. 10.			0.0%		phytic Vegetation <sup>1</sup> (Explain)
10.			0.0%	<sup>1</sup> Indicators of hydric	soil and wetland hydrology must
Woody Vine Stratum (Plot size:	)	95 = 1	Total Cover		turbed or problematic.
1			0.0%		
2			0.0%	Hydrophytic Vegetation	
			Total Cover	Present? Yes	● No ○
				<u>l</u>	
Remarks: (Include photo numbers	s here or on a sepa	rate sheet.)			

SOIL Sampling Point: w-ibl-121117-02

Depth	, (50	Matrix				lox Featu	res		= absence of indicators.)	
(inches)	Color (	moist)	%	Color	moist)	%	Tvpe 1	Loc <sup>2</sup>	Texture	Remarks
0-13	5G	2.5/1	80	10YR	4/2	20	RM		Loam	
	-				-			-	<u> </u>	
	-							-		
<sup>1</sup> Type: C=Cond	entration. [	=Depletion	n. RM=Reduce	ed Matrix.	CS=Covere	ed or Coate	ed Sand Gr	ains.	Location: PL=Pore Lining	. M=Matrix.
Hydric Soil I		-1	,	,						ematic Hydric Soils <sup>3</sup> :
Histosol (A				Sa	ndy Gleyed	Matrix (S4	1)			•
Histic Epip	edon (A2)				ndy Redox				Coast Prairie Redox	x (A16)
Black Histi					ipped Matri				Dark Surface (S7)	
	Sulfide (A4)	)			amy Mucky		1)		☐ Iron Manganese M	
	Layers (A5)				amy Gleyed				Very Shallow Dark	Surface (TF12)
2 cm Mucl					pleted Matr				Other (Explain in R	emarks)
	Below Dark		1)	Re	dox Dark Sı	urface (F6)	)			
	k Surface (A	•			pleted Dark				3 Indicators of hydron	hytic vegetation and
	ck Mineral (			Re	dox Depres	sions (F8)	•		wetland hydrolog	y must be present,
5 cm Mucl	ky Peat or P	eat (S3)							unless disturbed	or problematic.
Restrictive La	ayer (if obs	served):								
Туре:									Hadria Cail Duananta	Yes ● No ○
Depth (inch	nes):								Hydric Soil Present?	Yes ● No O
Remarks:										
HYDROLO	GY									
Wetland Hyd	rology Ind	icators:								
Primary Indica	tors (minim	um of one i	is required; ch	neck all th	at apply)				Secondary Indica	ators (minimum of two required)
✓ Surface W	ater (A1)				Water-Stain	ed Leaves	(B9)		Surface Soil	Cracks (B6)
High Wate	er Table (A2	)			Aquatic Faui	na (B13)			☐ Drainage Pat	terns (B10)
Saturation	(A3)				True Aquatio	c Plants (B	14)		☐ Dry Season \	Nater Table (C2)
Water Mar	rks (B1)			H	Hydrogen Sı	ulfide Odo	r (C1)		Crayfish Burn	rows (C8)
Sediment	Deposits (B	2)			Oxidized Rh	izospheres	on Living I	Roots (C3)	Saturation Vi	sible on Aerial Imagery (C9)
Drift Depo	sits (B3)			F	Presence of	Reduced	Iron (C4)		Stunted or S	tressed Plants (D1)
Algal Mat	or Crust (B4	1)		F	Recent Iron	Reduction	in Tilled S	oils (C6)	Geomorphic	Position (D2)
Iron Depo	sits (B5)				Thin Muck S	Surface (C7	")		✓ FAC-Neutral	Test (D5)
Inundation	n Visible on	Aerial Imag	jery (B7)		Gauge or W	ell Data (E	9)			
Sparsely V	egetated Co	oncave Surf	ace (B8)		Other (Expla	ain in Rem	arks)			
Field Observa	ations:									
Surface Water	Present?	Yes <sup>(</sup>	<ul><li>No O</li></ul>		Depth (inc	:hes):	1	_		
Water Table Pr	resent?	Yes (	O No 💿		Depth (inc	:hes):				
Saturation Pres		Yes (	○ No ●		Depth (inc			Wet	land Hydrology Present?	Yes   No
(includes capill									- \ '\ 16 !! -   -   -	
Describe Reco	Dided Data	ı (sıream (	yauge, mon	itoring w	eii, aeriai	pnotos, p	orevious ir	spections	s), if available:	
Remarks:										

Project/Site: Hillsboro-Hutchings		City/County:	Warren	Sampling Date: 11-Dec-17
Applicant/Owner: _AEP			State:	OH Sampling Point: w-jbl-121217-01
Investigator(s): JBL, JTT		Section, Tov	vnship, Range:	S T R
Landform (hillslope, terrace, etc.): Flat			Local relief (c	concave, convex, none): flat
· · · · · · · · · · · · · · · · · · ·	4	Long		
Slope: 0.0% / 0.0 ° Lat.: 39.36496	54	Long.:	-84.078452	
Soil Map Unit Name: WsS1A1	Vo	o (a) No (	416	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical t			•	kplain in Remarks.)
Are Vegetation , Soil , or Hydrol	logy significantly	disturbed?	Are "No	ormal Circumstances" present? Yes   No   No
Are Vegetation , Soil , or Hydrol				ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach sit	e map showing sa	mpling poi	nt location	ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes •	No O			
Hydric Soil Present? Yes •	No O		ne Sampled A nin a Wetland	
Wetland Hydrology Present? Yes   •	No O			163 C NO C
Remarks:				
Pem in ROW				
<b>VEGETATION</b> - Use scientific nar	mes of plants.	Dominan		
	Absolu	Species? ite Rel.Strat	. Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:)	% Cov	er Cover	Status	Number of Dominant Species
1		0.0%		That are OBL, FACW, or FAC: (A)
2		0.0%		Total Number of Dominant
3		0.0%		Species Across All Strata:3 (B)
5. 4		0.0%		Percent of dominant Species
J		0.0%		That Are OBL, FACW, or FAC: 66.7% (A/B)
_Sapling/Shrub Stratum (Plot size:	0	_ = Total Co	ver	
1	_	0.0%		Prevalence Index worksheet:
1 2.		0.0%		Total % Cover of: Multiply by:  OBL species 25 x 1 = 25
3.	0	0.0%		OBL species 25
4.	0	0.0%		FAC species 8 x 3 = 24
5.	0	0.0%		FACU species 30 x 4 = 120
Harb Charbons (Plot size)	0	= Total Co	ver	UPL species 0 x 5 = 0
Herb Stratum (Plot size:)  1 Festuca arundinacea	20	<b>✓</b> 19.4%	FACU	Column Totals: 103 (A) 249 (B)
0		✓ 19.4% ✓ 24.3%		
2 Canada da	25	<b>✓</b> 24.3%		Prevalence Index = B/A = 2.417
4. Apocynum cannabinum		7.8%	FAC	Hydrophytic Vegetation Indicators:
5. Agrimonia parviflora	10	9.7%	FACW	1 - Rapid Test for Hydrophytic Vegetation
6. Symphyotrichum ericoides	10	9.7%	FACU	<b>2</b> - Dominance Test is > 50%
7. Persicaria pensylvanica	5	4.9%	FACW	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.	0	0.0%		
	103	_ = Total Co	ver	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_Woody Vine Stratum_ (Plot size:	_ /			1
1.	_	0.0%		Hadaahadi.
	_	0.0%		Hydrophytic Vegetation
1.	0		ver	
1.	0	0.0%	ver	Vegetation
1.	0 0	0.0%	ver	Vegetation

SOIL Sampling Point: w-ibl-121217-01

Profile Description: (Describe to the	depth needed to d			nfirm the	absence of indicators.)	
Depth Matrix (inches) Color (moist)	% Color (n	Redox Featuroist) %	ures _Tvpe <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-13 10YR 4/1	90 10YR	4/4 10	TVDE	LUC-	Clay Loam	Kelliaiks
	70 1011					
				-		
				-		
1 Type: C=Concentration, D=Depletion, R	M=Reduced Matrix C	S=Covered or Coa	— ——— ted Sand Gra	ins	Location: PL=Pore Lining	ı M=Matrix
Hydric Soil Indicators:	readeed matrix, e					ematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sand	dy Gleyed Matrix (S	4)			•
Histic Epipedon (A2)		dy Redox (S5)	,		Coast Prairie Redo	x (A16)
Black Histic (A3)	Strip	ped Matrix (S6)			☐ Dark Surface (S7)	(510)
Hydrogen Sulfide (A4)	Loar	ny Mucky Mineral (	F1)		☐ Iron Manganese M	
Stratified Layers (A5)	Loar	ny Gleyed Matrix (F	2)			
2 cm Muck (A10)	<b>✓</b> Depl	eted Matrix (F3)			Other (Explain in I	Remarks)
Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)	Redo	ox Dark Surface (F6	5)			
Sandy Muck Mineral (S1)	☐ Depl	eted Dark Surface	(F7)			phytic vegetation and
5 cm Mucky Peat or Peat (S3)	☐ Redo	ox Depressions (F8)	)			gy must be present, d or problematic.
Restrictive Layer (if observed):					1	a or problemation
Type:						
Depth (inches):					Hydric Soil Present?	Yes   No
Remarks:						
кетагку:						
HYDROLOGY	equired; check all tha	apply)			Secondary Indic	ators (minimum of two required)
HYDROLOGY Wetland Hydrology Indicators:		t apply) ater-Stained Leaves	s (B9)		Secondary Indic	
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is re	_ Wa		s (B9)			Cracks (B6)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is re  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	☐ Wa ☐ Aq ☐ Trı	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I	B14)		Surface Soil Drainage Pa Dry Season	Cracks (B6) tterns (B10) Water Table (C2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	☐ Wa☐ Aq☐ Tri	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I rdrogen Sulfide Odd	B14) or (C1)		Surface Soil Drainage Pa Dry Season Crayfish Bur	Cracks (B6) tterns (B10) Water Table (C2) rows (C8)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	War Aq	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odo idized Rhizosphere	B14) or (C1) s on Living R	doots (C3)	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	Wa   Aq   Tri   Hy   Ox   Pro	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd didized Rhizosphere esence of Reduced	B14) or (C1) s on Living F Iron (C4)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)	War Aq	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd didized Rhizosphere esence of Reduced cent Iron Reductio	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	Wa Aq Aq Tri Ay	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C	B14) or (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery	Wa   Aq   Tri   Hy   Ox   Pri   Re   Th   Ga	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	Wa   Aq   Tri   Hy   Ox   Pri   Re   Th   Ga	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:	Wa   Aq   Tri   Hy   Ox   Pri   Re   Th   Ga   Ga   Ga   Ot	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface	Wa   Aq   Tri   Hy   Ox   Pro   Re   Th   Ga   Ga   Ga   St   Ga   Care   Car	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Yes	Wa   Aq   Aq   Trr	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data (I her (Explain in Ren Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)		Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Water Table Present?  Yes ●	Wa   Aq   Trr   Hy   Ox   Pro   Re   (B8)   Ot   No	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data ( her (Explain in Ren Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)	ills (C6)	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Water Table Present?  Saturation Present?  (includes capillary fringe)	Wa   Aq   Aq   Tri   Hy   Ox   Ox   Prr   Re   Th   Ga   Case   Ot   No	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data ( her (Explain in Ren Depth (inches): Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)	- Wet	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Yes  ✓ Saturation Present?	Wa   Aq   Aq   Tri   Hy   Ox   Ox   Prr   Re   Th   Ga   Case   Ot   No	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data ( her (Explain in Ren Depth (inches): Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)	- Wet	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is recovered by the primary Indicators (minimum of one is recovered by the primary Indicators (minimum of one is recovered by the primary Indicators (Mala)  Wetland Hydrology Indicators:  Sufface Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Water Table Present?  Yes ●  Saturation Present?  (includes capillary fringe)  Describe Recorded Data (stream gates)	Wa   Aq   Aq   Tri   Hy   Ox   Ox   Prr   Re   Th   Ga   Case   Ot   No	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data ( her (Explain in Ren Depth (inches): Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)	- Wet	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Water Table Present?  Yes  Saturation Present?  (includes capillary fringe)	Wa   Aq   Aq   Tri   Hy   Ox   Ox   Prr   Re   Th   Ga   Case   Ot   No	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data ( her (Explain in Ren Depth (inches): Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)	- Wet	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is reconstruction)  Surface Water (A1)  ✓ High Water Table (A2)  ✓ Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery  Sparsely Vegetated Concave Surface  Field Observations:  Surface Water Present?  Water Table Present?  Yes  Saturation Present?  (includes capillary fringe)  Describe Recorded Data (stream gates)	Wa   Aq   Aq   Tri   Hy   Ox   Ox   Prr   Re   Th   Ga   Case   Ot   No	ater-Stained Leaves uatic Fauna (B13) ue Aquatic Plants (I drogen Sulfide Odd idized Rhizosphere esence of Reduced cent Iron Reductio in Muck Surface (C iuge or Well Data ( her (Explain in Ren Depth (inches): Depth (inches):	B14) or (C1) s on Living R Iron (C4) n in Tilled Sc 7) D9) narks)	- Wet	Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Geomorphic FAC-Neutral	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)

# Wetland 23a, b

Project/Site: Hillsboro-Hutchings 138kV		City/County:	Warren Cour	nty Sampling Date: 07-Dec-17
Applicant/Owner: AEP			State:	OH Sampling Point: w-jbl-121117-04a,b
Investigator(s): JTT,JBL		Section, Tov	wnship, Range:	
Landform (hillslope, terrace, etc.): Swale			Local relief (c	concave, convex, none): concave
Slope: 0.0% 0.0 ° Lat.: 3	20 265216	Long :	-84.079471	Datum: NAD 83
	59.303210	Long	-04.079471	
Soil Map Unit Name: RpC2		o Ves ( No (	(If no ov	NWI classification: PFO1A cplain in Remarks.)
Are climatic/hydrologic conditions on the si		ignificantly disturbed?		ormal Circumstances" present?
Are Vegetation , Soil ,	, or Hydrology 🔲 n	aturally problematic?	(If nee	ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - At	tach site map show	wing sampling po	int location	ns, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes ● No ○			
Hydric Soil Present?	Yes ● No ○	he Sampled <i>A</i> nin a Wetland		
Wetland Hydrology Present?	Yes ● No ○		iiii a wotiano	res © NO C
Remarks: swale adjacent to hh11. 4a is pem.  VEGETATION - Use scien				
/	,	Absolute Rel.Stra	. Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:	)	% Cover Cover	Status	Number of Dominant Species
		40 ✓ 100.09 0		That are OBL, FACW, or FAC: 3 (A)
2. 3.		$ \begin{array}{c cc}  & 0 & \square & 0.0\% \\ \hline  & 0 & \square & 0.0\% \end{array} $		Total Number of Dominant
4.				Species Across All Strata: 3 (B)
5.		0 0.0%		Percent of dominant Species
		40 = Total Co	ver	That Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size:	)			Prevalence Index worksheet:
1		0 0.0%		Total % Cover of: Multiply by:
2		0 0.0%		OBL species <u>13</u> x 1 = <u>13</u>
3		0 0.0%		FACW species <u>120</u> x 2 = <u>240</u>
4 5.		0 0.0%		FAC species $0 \times 3 = 0$
3		0 0.0%		FACU species 0 x 4 = 0
_Herb Stratum_(Plot size: _30	)	0 = Total Co	over	UPL species <u>0</u> x 5 = <u>0</u>
1. Carex vulpinoidea		40 43.0%	FACW	Column Totals: <u>133</u> (A) <u>253</u> (B)
2. Cinna arundinacea		30 232.3%	FACW	Prevalence Index = B/A = 1.902
		8 2 8.6%		Hydrophytic Vegetation Indicators:
-				✓ 1 - Rapid Test for Hydrophytic Vegetation
5. Epilobium coloratum 6.		5 5.4%		✓ 2 - Dominance Test is > 50%
7.		$ \begin{array}{c cc}  & 0 & \square & 0.0\% \\ \hline  & 0 & \square & 0.0\% \end{array} $		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		0 0.0%		4 - Morphological Adaptations 1 (Provide supporting
9.		0 0.0%		data in Remarks or on a separate sheet)
10.		0 0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratu (Plot size:	)	93 = Total Co	ver	1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		0 0.0%		
2		0 0.0%		Hydrophytic Vegetation
		0 = Total Co	ver	Present? Yes • No
Remarks: (Include photo numbers h	nere or on a separate s	heet.)		

SOIL Sampling Point: w-ibl-121117-04a.b

Depth	.p.1.511. (De:	Matrix	acptii ile	- Just 10		lox Featu			= absence of indicators.)	
(inches)	Color (ı		%	Color	(moist)	%	Tvpe 1	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR	4/1	90	10YR	4/6	10			Clay Loam	
						-				
1 Type: C=Cond	contration D	-Depletion	DM-Poduce	d Matrix	CS-Covere	ed or Coate	ad Sand Gr	aine	Location: PL=Pore Lining	M-Matrix
Hydric Soil I		- Depletion	i, Rivi–Reduce	u watin,	C3-Covere	ed or coat	eu Sanu Or	anis.		
Histosol (				Sa	ndy Gleyed	Matrix (S4	1)			ematic Hydric Soils <sup>3</sup> :
· ·	pedon (A2)				ndy Redox		• /		Coast Prairie Redox	(A16)
Black Hist					ripped Matri				Dark Surface (S7)	
Hydrogen	Sulfide (A4)				amy Mucky		1)		Iron Manganese Ma	asses (F12)
Stratified	Layers (A5)				amy Gleyed				Very Shallow Dark	Surface (TF12)
2 cm Muc	k (A10)				pleted Matr		<u>~)</u>		Other (Explain in R	emarks)
Depleted	Below Dark S	Surface (A1	1)		dox Dark Sı		١			
Thick Dar	k Surface (A1	12)			pleted Dark				3 Indicators of hydron	
Sandy Mu	ck Mineral (S	61)			dox Depres	,	1 7)		mulcators of mydropi	nytic vegetation and y must be present,
5 cm Muc	ky Peat or Pe	eat (S3)		Ke	dux Depres	310113 (1 0)			unless disturbed	
Restrictive La	ayer (if obs	erved):								
Type:										
Depth (incl	nes):								Hydric Soil Present?	Yes ● No ○
Remarks:									•	
HYDROLO	GY									
Wetland Hyd	rology Indi	cators:								
Primary Indica			s required: ch	eck all th	nat apply)				Secondary Indica	tors (minimum of two required)
✓ Surface W		01 0110 1	3 1 3 <b>4 4</b> 11 3 4 7 5 1		Water-Stain	od Loavos	(P0)		Surface Soil (	<u> </u>
	er Table (A2)				Aquatic Faui		(07)		✓ Drainage Pat	• •
✓ Flight Water ✓ Saturation					rue Aquatic		1.1)			Vater Table (C2)
Water Ma					True Aquatio Hydrogen St				Crayfish Burr	, ,
	Deposits (B2	))			Oxidized Rhi			Doots (C2)		sible on Aerial Imagery (C9)
		<del>(</del> )				•	-	ROOIS (CS)		- · · · ·
Drift Depo					Presence of			oile (C()		ressed Plants (D1)
	or Crust (B4)	)			Recent Iron			Olis (C6)	'	
Iron Depo			(DZ)		Thin Muck S				✓ FAC-Neutral	Test (D5)
	n Visible on A	-			Gauge or W		•			
Sparsely \	egetated Co	ncave Surf	ace (B8)		Other (Expla	ain in Rem	arks)			
Eiold Ob	ntions:							1		
Field Observation Surface Water		Yes (	● No ○		Depth (inc	hes).	0.5			
Water Table P		Yes						_		
Saturation Pre					Depth (inc			Wet	land Hydrology Present?	Yes ● No ○
(includes capil	lary fringe)	Yes			Depth (inc		0			
Describe Rec	orded Data	(stream (	gauge, mon	toring w	ell, aerial	photos, p	revious ir	nspections	s), if available:	
Remarks:										

Section   State   Oil   Sempling From:   w-jbl-121117-03	Applicant/Owner: AEP		City/	County: W	/arren	Sampling Date: 11-Dec-17
Landform (millslope, lerrace, etc.): Flat					State:	OH Sampling Point: w-jbl-121117-03
Landform (hillstope, letrace, vic.)   Flat	Investigator(s): JBL, JTT		Se	ction, Townsh	— ip, Range:	
Slope   0.0%				Loc	cal relief (c	concave, convex, none): flat
Note	-	E7E0				
Application   Soil   Or Hydrology   Significantly disturbed?   Are Negeration   Soil   Or Hydrology   Significantly disturbed?   Are Negeration   Soil   Or Hydrology   Significantly disturbed?   Are Negeration   Soil   Or Hydrology   Significantly disturbed?   Are Negration   Soil   Or Hydrology   Significantly disturbed?   Are Negration   Soil   Or Hydrology		15/50		Long.:84	4.080556	
Very   Sequention   Soil   Or Hydrology   Significantly disturbed?   Are Normal Circumstances; present?   Yes   No   Or Hydrology   Or Hydr	Soil Map Unit Name: <u>Cle1A</u>		Voc. 🕞	No O	(16	
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.					,	
Summary OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation	/drology	significantly distu	ırbed?	Are "No	ormal Circumstances" present? Yes • No •
Hydrophytic Vegetation Present? Yes ● No ○						
Is the Sampled Area within a Wetland?   Yes  No    N			owing sampl	ing point	location	ns, transects, important features, etc.
Wetland Hydrology Present?   Yes				Is the S	ampled A	lro2
VEGETATION - Use scientific names of plants.   Species7						
Tree Stratum (Plot size:	Wetland Hydrology Present? Yes	No				
Absolute   Species?   Absolute   Species?   Indicator   Status   Cover   Status	Remarks:					
Absolute   Species?   Absolute   Species?   Indicator   Status   Cover   Status						
Absolute   Species? Rel.Strat.   Indicator   Status   Dominance Test worksheet:   Number of Dominant Species   That are OBL, FACW, or FAC:   1 (A)						
Absolute   Species? Rel.Strat.   Indicator   Status   Dominance Test worksheet:   Number of Dominant Species   That are OBL, FACW, or FAC:   1 (A)						
Absolute   Rel Stratum   Plot size:     0	<b>VEGETATION</b> - Use scientific	names of pla				
1.	(5)		Absolute	Rel.Strat. I		Dominance Test worksheet:
2.				7	Status	·
3.						That are OBL, FACW, or FAC:1(A)
4.						
Saolino/Shrub Stratum (Plot size:     1						Species Across All Strata:1 (B)
Sabilno/Shrub_Stratum (Plot size:     )	l 5					Percent of dominant Species
Prevalence Index worksheet:   Total % Cover of: Multiply by:						
1.	Sanling/Shrub Stratum (Plot size:	)		- Total Cover		Provalence Index worksheet
2.       0       0.0%       OBL species       75       x 1 = 75         3.       0       0.0%       FACW species       23       x 2 = 46         4.       0       0.0%       FAC species       5       x 3 = 15         5.       0       0.0%       FAC species       5       x 3 = 15         Herb Stratum (Plot size: )       70       6.5.4%       OBL       UPL species       0       x 5 = 0         1, Juncus effusus       70       6.5.4%       OBL       Column Totals: 107       (A) 152       (B)         2, Carex vulpinoidea       8       7.5%       FACW       Prevalence Index = B/A = 1.421       Hydrophytic Vegetation Indicators:         3, Agrostis stolonifera       5       4.7%       FACW       FACW       Hydrophytic Vegetation Indicators:       Hydrophytic Vegetation Indicators:       1 - Rapid Test for Hydrophytic Vegetation       1 - Rapid Test for Hydrophytic Vegetation       2 - Dominance Test is > 50%       1 - Rapid Test for Hydrophytic Vegetation       1 - Rapid Test for Hydrophytic Vegetation       1 - Rapid Test for Hydrophytic Vegetation       2 - Dominance Test is > 50%       1 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)       1 - Morphological Adaptations <sup>1</sup> (Explain)       1 - Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	1		0	0.0%		
3.						0.001
4.						
Stratum (Plot size:)	4.		0	0.0%		
1_ Juncus effusus   70	5		0	0.0%		
1. Juncus effusus  70	Harh Stratum (Plot size:		0 =	Total Cover		UPL species 0 x 5 = 0
2. Carex vulpinoidea 3. Agrostis stolonifera 4. Apocynum cannabinum 5. Persicaria pensylvanica 6. Festuca arundinacea 7. Scirpus atrovirens 8. 0 0 0.0% 9. 0 0.0% 10	1		70	65.4%	∩RI	Column Totals: 107 (A) 152 (B)
3. Agrostis stolonifera  4. Apocynum cannabinum  5. Persicaria pensylvanica  6. Festuca arundinacea  7. Scirpus atrovirens  8. 0 0 0.0%  9. 10. 0 0.0%  Woody Vine Stratum (Plot size: )  1. 2. 0 0 0.0%  2. Hydrophytic Vegetation Indicators:  1. 4.7% FAC  1. Rapid Test for Hydrophytic Vegetation  2. Dominance Test is > 50%  2. Dominance Test is > 50%  3. Prevalence Index is ≤ 3.0 ¹  4. Mydrophytic Vegetation  2. Dominance Test is > 50%  3. Prevalence Index is ≤ 3.0 ¹  4. Mydrophytic Vegetation  1. Agrostis stolonifera  5. 4.7% FAC  1. Rapid Test for Hydrophytic Vegetation  2. Dominance Test is > 50%  3. Prevalence Index is ≤ 3.0 ¹  4. Mydrophytic Vegetation  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. Hydrophytic Vegetation  2. Hydrophytic Vegetation  3. Agrostic Mydrophytic Vegetation Indicators:  1. Agriculture Stratum Indicators:  1. Agriculture Stratum Indicators:  1. Agriculture Stratum Indicators:  2. Dominance Test is > 50%  3. Prevalence Index is 50%  4. Mydrophytic Vegetation  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	2.0					
4. Apocynum cannabinum 5. Persicaria pensylvanica 6. Festuca arundinacea 7. Scirpus atrovirens 8. 0 0 0.0% 9. 0 0.0% 10. 0 0.0% 11. 0 0 0.0% 12. 0 0.0% 13. 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. 0 0 0.0% 1. Hydrophytic Vegetation Indicators:  1. 1 Rapid Test for Hydrophytic Vegetation 2. Dominance Test is > 50% 3. Prevalence Index is ≤3.0 ¹ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)  1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  1. Hydrophytic Vegetation	2 4 11 11 15					
5. Persicaria pensylvanica  6. Festuca arundinacea  7. Scirpus atrovirens  8. 0 0 0.0%  9. 0 0.0%  10	1					
7. Scirpus atrovirens  8. 0 0.0%  9. 0.0%  10. 0.0%  Woody Vine Stratum (Plot size: )  1. 0 0.0%  2. 0.0%  1.	5			9.3%	FACW	
8. 0 0.0% 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)  10. 0 0.0% Problematic Hydrophytic Vegetation ¹ (Explain)  107 = Total Cover  108			4	3.7% I	FACU	l
9.	7. Scirpus atrovirens		5	4.7%	OBL	
10.			0	0.0%		
Woody Vine Stratum (Plot size: )				0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: )			0	0.0%		1 Indicators of hydric soil and watland hydrology must
2. Under the state of the state	10.		107 =	= Total Cover		
Vegetation Vegetation		)				
l Vac (a) Na ( )	Woody Vine Stratum (Plot size:		0	0.0%		Understadie
-	Woody Vine Stratum (Plot size:					Veretetien
	Woody Vine Stratum (Plot size:		0	0.0%		Vegetation
			0 =	0.0%		Vegetation

SOIL Sampling Point: w-ibl-121117-03

Depth (inches)	Color (i	moist)	%	Color (	moist)	%	Tvpe 1	Loc2	Texture	Remarks
0-12	10YR	5/2	85	10YR	4/6	15		M	Clay Loam	
									-	
 Гуре: C=Con	centration, D	=Depletion,	RM=Reduce	ed Matrix,	CS=Covered	l or Coate	d Sand Gra	ins.	Location: PL=Pore Lining	j. M=Matrix.
-lydric Soil I	ndicators:								Indicators for Probl	ematic Hydric Soils 3:
Histosol (	A1)			San	ndy Gleyed M	latrix (S4)	)		Coast Prairie Redo	v (A16)
	pedon (A2)			San	ndy Redox (S	55)			Dark Surface (S7)	X (A10)
Black Hist	` ,			Stri	ipped Matrix	(S6)			☐ Iron Manganese M	laccoc (E12)
	Sulfide (A4)			Loa	amy Mucky M	lineral (F1	1)			
	Layers (A5)			Loa	my Gleyed N	Matrix (F2	)			, ,
2 cm Mud				<b>✓</b> Dep	pleted Matrix	(F3)			Other (Explain in F	Remarks)
_ '	Below Dark S	`	1)	Rec	dox Dark Sur	face (F6)				
_	k Surface (A	•		☐ Dep	pleted Dark S	Surface (F	7)		3 Indicators of hydror	phytic vegetation and
_	ıck Mineral (S			Rec	dox Depressi	ons (F8)			wetland hydrolog	gy must be present,
	ky Peat or Pe								unless disturbe	d or problematic.
estrictive L	ayer (if obs	erved).								
_		civea).								
Type:		ci veu).							Hydric Soil Prosont?	Van 🕟 Na 🔾
Depth (inc	hes):	ervedy.							Hydric Soil Present?	Yes   No
Depth (inc		ervedy.							Hydric Soil Present?	Yes   No
Depth (inc Remarks:	OGY								Hydric Soil Present?	Yes ● No ○
Depth (inc Remarks: YDROLC	OGY Irology Indi	cators:	roquired of	nock all the	ot apply)					
Depth (inc Remarks: YDROLC Vetland Hyd	OGY Irology Indi ators (minimu	cators:	s required; cl						Secondary Indic	ators (minimum of two required)
Depth (inc Remarks: YDROLC Vetland Hyd Primary Indica Surface W	OGY Irology Indi ators (minimu Vater (A1)	cators: um of one is	s required; cl	w	Vater-Stained		(B9)		Secondary Indic	ators (minimum of two required) Cracks (B6)
Depth (inc Remarks:  YDROLC  Vetland Hyd  Primary Indica  Surface W  High Wat	OGY Irology Indi ators (minimu Vater (A1) er Table (A2)	cators: um of one is	required; cl	w	Vater-Stained quatic Fauna	a (B13)	` '		Secondary Indic Surface Soil Drainage Pa	ators (minimum of two required) Cracks (B6) tterns (B10)
Depth (inc. Remarks:  YDROLC  Vetland Hyd Primary Indica  Surface W High Wat  Saturation	OGY Irology Indi ators (minimu Vater (A1) er Table (A2) n (A3)	cators: um of one is	s required; cl	W   A   T	Vater-Stained quatic Fauna rue Aquatic I	a (B13) Plants (B1	14)		Secondary Indic Surface Soil Drainage Pa Dry Season	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2)
Depth (inc Remarks:  YDROLC  Vetland Hyd  Primary Indica  Surface W  High Wat  Saturation  Water Ma	JGY Irology Indi ators (minimu Vater (A1) er Table (A2) n (A3) irks (B1)	cators: um of one is	required; cl	w a t	Vater-Stained quatic Fauna rue Aquatic F lydrogen Sulf	a (B13) Plants (B1 fide Odor	(C1)		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8)
Depth (inc Remarks:  YDROLC  Vetland Hyd  Primary Indica  Surface W  High Wat  Saturation  Water Ma  Sediment	DGY Irology Indiators (minimulators (A1) er Table (A2) n (A3) urks (B1) Deposits (B2	cators: um of one is	s required; cl	W   A   T   H   O	Vater-Stained quatic Fauna rue Aquatic F lydrogen Sulf Oxidized Rhizo	a (B13) Plants (B1 fide Odor ospheres	(C1) on Living F	doots (C3)	Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9)
Popth (inc.)  Remarks:  YDROLC  Vetland Hyd  Primary Indica  Surface W  High Wat  Saturation  Water Ma  Sediment  Drift Depo	Irology Indi ators (minimu Vater (A1) er Table (A2) in (A3) irks (B1) Deposits (B2 osits (B3)	cators: um of one is	s required; cl	W   A   T   H   O   P	Vater-Stained quatic Fauna True Aquatic I lydrogen Sulf Oxidized Rhizo tresence of R	a (B13) Plants (B1 fide Odor ospheres reduced Ir	(C1) on Living F		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1)
Pepth (inc.)  Pemarks:  YDROLC  Vetland Hydrimary Indica  Surface W High Wate Saturation Water Ma Sediment Drift Depo	DGY Irology Indiators (minimulators (minimulators (A1)) er Table (A2) in (A3) irks (B1) Deposits (B2) osits (B3) or Crust (B4)	cators: um of one is	required; cl	W   A   T   H   O   P   R	Vater-Stained quatic Fauna rue Aquatic I lydrogen Sulf exidized Rhize resence of R decent Iron R	a (B13) Plants (B1 fide Odor ospheres reduced In	(C1) on Living Fron (C4) in Tilled Sc		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Depth (inc Remarks:  IYDROLC  Vetland Hyd  Primary Indica  Surface V  High Wate  Saturation  Water Ma  Sediment  Drift Depo	JOGY Irology Indiators (minimulators (minimulators (m2)) er Table (A2) er Table (A2) er (A3) er (A3) er (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	cators: um of one is		W   A   T   H   O   P   R   T   T	Vater-Stained quatic Fauna irue Aquatic F lydrogen Sulf Dixidized Rhize resence of R decent Iron R Thin Muck Sulf	e (B13) Plants (B1 fide Odor ospheres reduced In reduction	(C1) on Living F on (C4) in Tilled Sc		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Depth (inc Remarks:  IYDROLC  Vetland Hyd Primary Indica Surface W  High Wat Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depc Inundation	Pogy Indicators (minimum Vater (A1) er Table (A2) in (A3) urks (B1) Deposits (B3) or Crust (B4) cosits (B5) in Visible on A	cators: um of one is 2)	ery (B7)	W   A   T   H   O   P   R   T   T	Vater-Stained quatic Fauna rue Aquatic I lydrogen Sulf exidized Rhize resence of R decent Iron R	e (B13) Plants (B1 fide Odor ospheres reduced In reduction	(C1) on Living F on (C4) in Tilled Sc		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Primary Indication  Surface Wetland Hyde  Wetland Hyde  Surface Wetland Water Ma  Sediment  Drift Depre Algal Mat  Iron Depre	JOGY Irology Indiators (minimulators (minimulators (m2)) er Table (A2) er Table (A2) er (A3) er (A3) er (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	cators: um of one is 2)	ery (B7)	W   A   T   O   P   C   F   G   G   C   C   C   C   C   C   C   C	Vater-Stained quatic Fauna irue Aquatic F lydrogen Sulf Dixidized Rhize resence of R decent Iron R Thin Muck Sulf	a (B13) Plants (B1 fide Odor ospheres deduced In Reduction rface (C7) I Data (D0	(C1) on Living F ron (C4) in Tilled Sc )		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Depth (inc Remarks:  NYDROLC  Vetland Hyd  Nater Ma  Sediment  Drift Dept  Algal Mat  Iron Dept  Inundatio  Sparsely	JOGY Irology Indiators (minimulators (minimulators (A1)) er Table (A2) in (A3) irks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) in Visible on A Vegetated Co	cators: um of one is 2) Aerial Image	ery (B7) ace (B8)	W	Vater-Stainec  quatic Fauna frue Aquatic F  lydrogen Sulf  lydrogen Rhize  resence of R  tecent Iron R  hin Muck Sulf  auge or Well	a (B13) Plants (B1 fide Odor ospheres deduced In Reduction rface (C7) I Data (D0	(C1) on Living F ron (C4) in Tilled Sc )		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Depth (inc Remarks:  IYDROLC  Vetland Hyd Primary Indica Surface W High Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W	Pogy Indiators (minimulators (minimulators (minimulators (minimulators (Ma)) er Table (A2) in (A3) erks (B1) Deposits (B3) or Crust (B4) osits (B5) en Visible on Avegetated Collections:	cators: um of one is 2)	ery (B7) ace (B8)	W	Vater-Stainec  quatic Fauna frue Aquatic F  lydrogen Sulf  lydrogen Rhize  resence of R  tecent Iron R  hin Muck Sulf  auge or Well	a (B13) Plants (B1 fide Odor ospheres reduced In reduction rface (C7) I Data (D0)	(C1) on Living F ron (C4) in Tilled Sc )		Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Depth (inc.) Remarks:  IYDROLC  Vetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely W	Present?	cators: um of one is 2) Aerial Image	ery (B7) ace (B8)	W   A   T     H     O     P     G     O   O   O   O   O   O   O   O	Vater-Stainec quatic Fauna rue Aquatic F lydrogen Sulf oxidized Rhizo resence of R decent Iron R hin Muck Sur Gauge or Well other (Explair	a (B13) Plants (B1 fide Odor ospheres deduced Ir deduction rface (C7) I Data (Du n in Rema	(C1) on Living F ron (C4) in Tilled Sc )	ills (C6)	Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutral	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Depth (inc Remarks:  IYDROLC  Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely W  Field Observ Surface Water Water Table P Saturation Pre	Present?	cators: um of one is  2) Aerial Image uncave Surfa	ery (B7) ace (B8)  No  No  No  No	W   A   T   H     O   P     F     G   O   O	Vater-Stained  quatic Fauna  rue Aquatic F  lydrogen Sulf  lydrogen Rhize  resence of R  lecent Iron R  chin Muck Sulf  bauge or Well  other (Explain  Depth (inche)	a (B13) Plants (B1 fide Odor ospheres reduced Ir reduction rface (C7) I Data (D6 n in Rema	(C1) on Living Fron (C4) in Tilled Sc ) 9) irks)	ills (C6)	Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Depth (inc Remarks:  IYDROLC  Wetland Hyd Primary Indica Surface W  High Wate Sediment Drift Depo Algal Mat Iron Depc Inundatio Sparsely  Field Observ Surface Water Water Table P Saturation Pre (includes capil	JOGY Irology Indiators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) or Table (A2) or (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Visible on A Vegetated Co ations: Present? or Present? or Sent? or Sent?	cators: um of one is  2)  Aerial Image ncave Surfa  Yes  Yes  Yes	ery (B7) lice (B8)  No  No  No  No	W   A   T     H     O     P       G     O   O   O   O   O   O   O	Vater-Stainec  quatic Fauna frue Aquatic F  lydrogen Sulf  oxidized Rhize fresence of R  decent Iron R  chin Muck Sur  bauge or Well  other (Explain  Depth (inche  Depth (inche	a (B13)  Plants (B1  fide Odor  ospheres  deduction  rface (C7)  I Data (Di  n in Rema  es):  es):  es):	(C1) (C1) on Living Fron (C4) in Tilled Sc ) (P) irks)	- Wet	Secondary Indic Surface Soil Drainage Pa Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutral	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Depth (inc Remarks:  IYDROLC  Wetland Hyd Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depc Algal Mat Iron Depc Inundatio Sparsely  Field Observ Surface Water Water Table P Saturation Pre includes capil	JOGY Irology Indiators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) or Table (A2) or (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Visible on A Vegetated Co ations: Present? or Present? or Sent? or Sent?	cators: um of one is  2)  Aerial Image ncave Surfa  Yes  Yes  Yes	ery (B7) lice (B8)  No  No  No  No	W   A   T     H     O     P       G     O   O   O   O   O   O   O	Vater-Stainec  quatic Fauna frue Aquatic F  lydrogen Sulf  oxidized Rhize fresence of R  decent Iron R  chin Muck Sur  bauge or Well  other (Explain  Depth (inche  Depth (inche	a (B13)  Plants (B1  fide Odor  ospheres  deduction  rface (C7)  I Data (Di  n in Rema  es):  es):  es):	(C1) (C1) on Living Fron (C4) in Tilled Sc ) (P) irks)	- Wet	Secondary Indic Surface Soil Drainage Pa Dry Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutral	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Depth (inc Remarks:  IYDROLC  Wetland Hyd Primary Indica Surface W High Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely W  Field Observ Surface Water Water Table P Saturation Pre includes capil Describe Rec	JOGY Irology Indiators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) or Table (A2) or (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Visible on A Vegetated Co ations: Present? or Present? or Sent? or Sent?	cators: um of one is  2)  Aerial Image ncave Surfa  Yes  Yes  Yes	ery (B7) lice (B8)  No  No  No  No	W   A   T     H     O     P       G     O   O   O   O   O   O   O	Vater-Stainec  quatic Fauna frue Aquatic F  lydrogen Sulf  oxidized Rhize fresence of R  decent Iron R  chin Muck Sur  bauge or Well  other (Explain  Depth (inche  Depth (inche	a (B13)  Plants (B1  fide Odor  ospheres  deduction  rface (C7)  I Data (Di  n in Rema  es):  es):  es):	(C1) (C1) on Living Fron (C4) in Tilled Sc ) (P) irks)	- Wet	Secondary Indic Surface Soil Drainage Pa Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutral	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)
Depth (inc Remarks:  IYDROLC  Wetland Hyd Primary Indica Surface W  High Wate Sediment Drift Depo Algal Mat Iron Depc Inundatio Sparsely  Field Observ Surface Water Water Table P Saturation Pre (includes capil	JOGY Irology Indiators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators (minimulators)) or Table (A2) or (A3) or Crust (B4) or Crust (B4) or Crust (B5) or Visible on A Vegetated Co ations: Present? or Present? or Sent? or Sent?	cators: um of one is  2)  Aerial Image ncave Surfa  Yes  Yes  Yes	ery (B7) lice (B8)  No  No  No  No	W   A   T     H     O     P       G     O   O   O   O   O   O   O	Vater-Stainec  quatic Fauna frue Aquatic F  lydrogen Sulf  oxidized Rhize fresence of R  decent Iron R  chin Muck Sur  bauge or Well  other (Explain  Depth (inche  Depth (inche	a (B13)  Plants (B1  fide Odor  ospheres  deduction  rface (C7)  I Data (Di  n in Rema  es):  es):  es):	(C1) (C1) on Living Fron (C4) in Tilled Sc ) (P) irks)	- Wet	Secondary Indic Surface Soil Drainage Pa Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutral	ators (minimum of two required) Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) tressed Plants (D1) Position (D2) Test (D5)

Project/Site: Hillsboro-Hutchings		City/Cou	unty: _\	Warren		Sampling Da	ate:11-D	ec-17
Applicant/Owner: AEP				State:	OH Sa	mpling Point:	w-jbl-1211	17-01
Investigator(s): JBL, JTT		Section	n, Towns	hip, Range:		-		
Landform (hillslope, terrace, etc.): Lowland			Lo	ocal relief (c	oncave, convex, none	): concave		
Slope:	5287		ona : -S	34.116880			NAD 83`	
Soil Map Unit Name: _JoR1B2	1201		-orig(	34.110000				
Soli Mab Otilit Martie: JOKTR2		Vos ( N	In ()	(If no ov	plain in Remarks.)	fication: N/A		
Are climatic/hydrologic conditions on the site typic		ntly disturbed			,	10	'es • No	$\bigcirc$
		,			rmal Circumstances" p	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	es 🔾 110	0
Are Vegetation 🔲 , Soil 🔲 , or Hyd	drology naturally	problematic	c?	(If need	ded, explain any answ	ers in Remarks.)		
SUMMARY OF FINDINGS - Attach	site map showing	sampling	g point	location	ns, transects, in	nportant feat	ures, etc.	
Hydrophytic Vegetation Present? Yes	• No O							
Hydric Soil Present? Yes	● No ○			Sampled A				
Wetland Hydrology Present? Yes			within	a Wetland	? Yes • No			
Remarks:								
Kemarks.								
VECETATION								
VEGETATION - Use scientific	names or plants.		minant ecies? –					
			.Strat. over	Indicator Status	Dominance Test w	vorksheet:		
1			0.0%	Status	Number of Dominar That are OBL, FACW		3	(A)
2.			0.0%		mat are obl, move	, 61 1716.		(1)
3.		0	0.0%		Total Number of Do Species Across All S		3	(B)
4		0	0.0%		opedies /idi oss /iii o	uutu.		(5)
5		0	0.0%		Percent of domina		100.0%	(A/B)
		<u>0</u> = To	otal Cover		That Are OBL, FA	CW, OF FAC:	100.070	(, ,, 5)
Sapling/Shrub Stratum (Plot size:	)				Prevalence Index	worksheet:		
1			0.0%		Total % Cov	_	iply by:	_
2. 3.			0.0%		OBL species	20 x 1		
4.			0.0%		FACW species FAC species	35 x 2		
5.			0.0%		FACU species	10 x 4		
U. L. O (Dietoire)			otal Cover		UPL species	0 x 5		
Herb Stratum (Plot size:)		35 🗸 3	35.0%	FAC	Column Totals:	100 (A)		(B)
1. Juncus tenuis 2. Carex annectens			20.0%	FACW				(b)
3. Typha angustifolia			20.0%	OBL	Prevalence In	ndex = B/A =	2.350	
4. Cyperus esculentus			15.0%	FACW	Hydrophytic Veget			
5. Rosa multiflora		5	5.0%	FACU	•	for Hydrophytic \	egetation/	
6. Festuca arundinacea		5	5.0%	FACU	2 - Dominance			
7.		0	0.0%		3 - Prevalence		<b>6</b>	
8. 9.		0	0.0%			cal Adaptations <sup>1</sup> ks or on a separa		oporting
10.			0.0%		Problematic Hy	ydrophytic Veget	ation <sup>1</sup> (Expla	ain)
10.			0.0%		1 Indicators of hy	dric soil and wet	and hydrolog	ıv must
Woody Vine Stratum (Plot size:	)	<u>00</u> = To	otal Cover		be present, unless	disturbed or pro	blematic.	iy illust
1		0	0.0%					
2		0	0.0%		Hydrophytic Vegetation			
		<u>0</u> = To	otal Cover		Present? Y	'es ● No ○		
Remarks: (Include photo numbers here or	on a separate sheet.)							

SOIL Sampling Point: w-ibl-121117-01

Profile Desci		the depth ne				nfirm the	e absence of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	lox Featu _%_	res	Loc <sup>2</sup>	Texture
0-13	10YR 4/1	90	7.5YR 4/6	10	C	_ <u></u>	Clay Loam
0 10	10110		7.011				
						-	
1 Typo: C_Cop	contration D-Donlatio	n DM_Poduco	d Matrix CS_Cover	od or Coat	od Sand Cr		Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	centration, D=Depletion	II, RIVI=Reduce	u Matrix, C3=Covere	eu or coar	eu Sanu Gra	11115.	
Histosol (			Sandy Gleyed	Matrix (S4	1)		Indicators for Problematic Hydric Soils <sup>3</sup> :
	pedon (A2)		Sandy Redox		• 7		Coast Prairie Redox (A16)
Black Hist	tic (A3)		Stripped Matri				☐ Dark Surface (S7)
, ,	Sulfide (A4)		Loamy Mucky		1)		☐ Iron Manganese Masses (F12)
Stratified	Layers (A5)		Loamy Gleyed				Very Shallow Dark Surface (TF12)
2 cm Mud			✓ Depleted Matr		-		Other (Explain in Remarks)
	Below Dark Surface (A	11)	Redox Dark S		)		
	k Surface (A12)		Depleted Dark	Surface (	F7)		Indicators of hydrophytic vegetation and
	ıck Mineral (S1)		Redox Depres	sions (F8)			wetland hydrology must be present,
	ky Peat or Peat (S3)						unless disturbed or problematic.
	ayer (if observed):						
Type:							Hydric Soil Present? Yes  No
Depth (inc	hes):		_				1.54 1000 1000 1000
HYDROLO	OGY						
-	Irology Indicators:						
Primary Indica	ators (minimum of one	is required; ch	eck all that apply)				Secondary Indicators (minimum of two required)
✓ Surface V	Vater (A1)		Water-Stain	ed Leaves	(B9)		Surface Soil Cracks (B6)
High Wat	er Table (A2)		Aquatic Fau	na (B13)			✓ Drainage Patterns (B10)
Saturation	• •		True Aquati				☐ Dry Season Water Table (C2)
Water Ma	• •		Hydrogen S		, ,		Crayfish Burrows (C8)
	Deposits (B2)		Oxidized Rh	•	-	Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Depo			Presence of				Stunted or Stressed Plants (D1)
	or Crust (B4)		Recent Iron			oils (C6)	✓ Geomorphic Position (D2)
Iron Depo	• •	(D7)	Thin Muck S				✓ FAC-Neutral Test (D5)
	n Visible on Aerial Ima		Gauge or W		•		
Sparsely	Vegetated Concave Sur	Tace (B8)	Other (Expla	ain in Rem	arks)		
Field Observ	ations:						
Surface Water		No ○	Depth (inc	hes):	0.5		
Water Table P		○ No ●				_	
Saturation Pre			•			Wet	land Hydrology Present? Yes   No
(includes capi		O No 💿	Depth (inc	:hes):		-	
Describe Rec	orded Data (stream	gauge, moni	toring well, aerial	photos, p	revious in	spections	s), if available:
Remarks:							

Project/Site: Hillsboro-Hutchings		City/County:	Warren	Sampling Date: 07-Dec-17
Applicant/Owner: AEP			State:	: OH Sampling Point: w-jbl-120717-01
Investigator(s): JBL, PJR		Section, Tow	nship, Range:	: S 14 T 5E R 3N
Landform (hillslope, terrace, etc.): Swale			Local relief (c	concave, convex, none): concave
Slope: 0.0% / 0.0 ° Lat.: 39.3		Long.:	-84.142189	Datum: NAD 83
Soil Map Unit Name: JoR1B2	00214		04.142107	NWI classification: N/A
Are climatic/hydrologic conditions on the site ty	unical for this time of year? Ye	es   No	(If no. ex	explain in Remarks.)
		y disturbed?	•	ormal Circumstances" present?
	Hydrology			ornal ordanistances present.
-				eded, explain any answers in Remarks.) ons, transects, important features, etc.
	s • No O			
3 1 3 3	s • No O		ne Sampled A	
,	s • No O	With	nin a Wetland	d? Yes  ● No ○
Remarks:				
swale extending tonpond				
- '				
VEGETATION - Use scientific	c names of plants	5		
VEGETATION - Ose scientific	·	Dominant Species?	·	I
_Tree Stratum_ (Plot size:)	Absolu % Cov		. Indicator Status	
1	0	0.0%		Number of Dominant Species That are OBL, FACW, or FAC:1 (A)
2		0.0%		Total Number of Deminant
3	0	0.0%		Total Number of Dominant Species Across All Strata:2 (B)
4	0			Darsont of dominant Cuasias
5				Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
_Sapling/Shrub Stratum (Plot size:	0	= Total Cov	ver	
1.		0.0%		Prevalence Index worksheet:  Total % Cover of: Multiply by:
2.		0.0%		OBL species 50 x 1 = 50
3.	0	0.0%		FACW species 25 x 2 = 50
4.	0	0.0%		FAC species 5 x 3 = 15
5	0	0.0%		FACU species <u>25</u> x 4 = <u>100</u>
Herb_Stratum_(Plot size: )	0	= Total Cov	ver	UPL species x 5 =
1 Coirmus atravirona	40	<b>✓</b> 38.1%	OBL	Column Totals:
2. Agrostis stolonifera	15	14.3%	FACW	Prevalence Index = B/A = 2.048
3. Apocynum cannabinum	5	4.8%	FAC	Hydrophytic Vegetation Indicators:
		9.5%	FACW	1 - Rapid Test for Hydrophytic Vegetation
5. Festuca arundinacea		23.8%		2 - Dominance Test is > 50%
6. Juncus effusus 7.		9.5%	OBL	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations 1 (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
(2)	, 105	= Total Cov	ver	1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_Woodv Vine Stratum (Plot size:	)			be present, unless disturbed or problematic.
1 2.		0.0%		Hydrophytic
۷	0			Vegetation Present? Yes No
	0_	= Total Cov	ver	Present: 100 c 110 c
Remarks: (Include photo numbers here	or on a separate sheet.)			
Tremane. (made priore names a nere	or or a soparate shoot.			

Wetland 26 SOIL Sampling Point: w-jbl-120717-01 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Type 1 (inches) Color (moist) Color (moist) Loc2 Texture 0-3 10YR 5/1 95 10YR 4/6 5 C. Clay Loam С 3-14 10YR 5/1 80 7.5YR 4/6 20 Silty Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils 3: Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) ✓ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. ✓ Redox Depressions (F8) 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Yes **Hydric Soil Present?** No O Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) ✓ Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) High Water Table (A2) ✓ Drainage Patterns (B10) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) FAC-Neutral Test (D5) Thin Muck Surface (C7)

# Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: No O Depth (inches): 0.5 Surface Water Present? Yes $\bigcirc$ No Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes $\bigcirc$ No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Section, Township, Range: S 21 T 5E R 3N  andform (hillslope, terrace, etc.): Flat  Local relief (concave, convex, none): concave  lope: 0.0% / 0.0 ° Lat.: 39.387672  Long.: -84.159135  Datum: NAD 83  oil Map Unit Name: HrC2  re climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  re Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No (Is the Sampled Area)  Local relief (concave, convex, none): concave  NWI classification: N/A  (If no, explain in Remarks.)  Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)	Project/Site: Hillsboro-Hutchings		City/Co	ounty: Warren	Sampling Date: 06-Dec-17
Local relief (concave, convex, none);   Concave   Datume   MAD 83   Datume   MAD 84   Datume   MAD	Applicant/Owner: AEP			State	e: OH Sampling Point: w-jbl-120617-02
Indicator   Note   1.00   Note   No	Investigator(s): JBL, PJR		Secti	on, Township, Range	e: S 21 T 5E R 3N
Mill blame   HeD2   Not described by the limit of year? Yes  Not	Landform (hillslope, terrace, etc.): Flat			Local relief	(concave, convex, none): concave
re dimatic/hydrologic conditions on the site typical for this time of year? Yes ♥ No ○ re Vegetation │ , Soi │ , or Hydrology │ septiticantly discurbed?  Are *Normal Circumstances* present? Yes ♥ No ○ re Vegetation │ , Soi │ , or Hydrology │ raturally problematic?  **Command of the Section │ , Soi │ , or Hydrology │ raturally problematic?  **Command of the Section │ , Soi │ , or Hydrology │ raturally problematic?  **Command of the Section │ , or Hydrology │ raturally problematic?  **Command of the Section   , or Hydrology   raturally problematic?  **Command of the Section   , or Hydrology   raturally problematic?  **Command of the Section   , or Hydrology   raturally problematic?  **VEGETATION - Use scientific names of plants.  **Proceeding of the Section   , or Hydrology   research?  **VEGETATION - Use scientific names of plants.  **Verification   , or Hydrology Present?	Slope: 0.0% / 0.0 ° Lat.:	39.387672		 Long.: -84.15913	Datum: NAD 83
re dimatic/hydrologic conditions on the site typical for this time of year? Yes ♥ No ○ re Vegetation │ , Soi │ , or Hydrology │ septiticantly discurbed?  Are *Normal Circumstances* present? Yes ♥ No ○ re Vegetation │ , Soi │ , or Hydrology │ raturally problematic?  **Command of the Section │ , Soi │ , or Hydrology │ raturally problematic?  **Command of the Section │ , Soi │ , or Hydrology │ raturally problematic?  **Command of the Section │ , or Hydrology │ raturally problematic?  **Command of the Section   , or Hydrology   raturally problematic?  **Command of the Section   , or Hydrology   raturally problematic?  **Command of the Section   , or Hydrology   raturally problematic?  **VEGETATION - Use scientific names of plants.  **Proceeding of the Section   , or Hydrology   research?  **VEGETATION - Use scientific names of plants.  **Verification   , or Hydrology Present?	Soil Map Unit Name: HrC2				NWI classification: N/A
Per   Per		ite typical for this time of y	<sub>/ear?</sub> Yes ⊙ I	No O (If no, e	
Summary OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.					Normal Circumstances" present? Yes  No
Summary OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation, Soil	, or Hydrology $\square$ n	aturally problemat		·
Is the Sampled Area within a Wetland?   Yes   No   No   No   No   No   No   No   N	SUMMARY OF FINDINGS - At	• ••		,	
Wetland Hydrology Present?   Yes	Hydrophytic Vegetation Present?	Yes   No			
VEGETATION - Use scientific names of plants.   Dominant Species   Species?   Indicator Secure Cover   Cover   Status   Number of Dominant Species   Nature of	Hydric Soil Present?	Yes ● No ○			
VEGETATION - Use scientific names of plants.   Species	Wetland Hydrology Present?	Yes ● No ○		within a wetian	Yes W No C
VEGETATION - Use scientific names of plants.   Dominant Species? Rel. Strat.   Indicator Rel. Stratum. (Plot size:)				1	
Absolute   Species   Owner   Status   Cover   Cover   Status   Cover					
Absolute   Species   Nature   Species   Indicator   Status   Number of Dominant Species   Nature of Nature of Dominant Species   Nature of Dominant Species   Nature of Na					
Absolute					
Absolute   Absolute	<b>VEGETATION</b> - Use scien	tific names of plan			
1.	(2)	,	Absolute Re	el.Strat. Indicator	Dominance Test worksheet:
2.					Number of Dominant Species
3.	_				That are OBL, FACW, or FAC:1 (A)
4.					Total Number of Dominant
Sabilina/Shrub Stratum (Plot size:)         Percent of dominant Species That Are OBL, FACW, or FAC:					Species Across All Strata:1 (B)
Sablina/Shrub Stratum (Plot size:					Percent of dominant Species
Prevalence Index worksheet:   1.					
1.	Sapling/Shrub Stratum (Plot size:	)		otal cover	Prevalence Index worksheet
2.       0       0.0%       OBL species       0       x 1 = 0         3.       0       0.0%       FACW species       100       x 2 = 200         4.       0       0.0%       FACW species       0       x 3 = 0         5.       0       0.0%       FACU species       0       x 4 = 0         Herb Stratum (Plot size:)       10       10.0%       FACW         1. Poa palustris       80       80.0%       FACW         2. Cyperus esculentus       10       10.0%       FACW         3. Lysimachia nummularia       10       10.0%       FACW         4.       0       0.0%       Hydrophytic Vegetation Indicators:         5.       0       0.0%       Hydrophytic Vegetation Indicators:         9.       1. Rapid Test for Hydrophytic Vegetation         9.       0       0.0%       3. Prevalence Index is ≤ 3.0 ¹         4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)       Problematic Hydrophytic Vegetation ¹ (Explain)         1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation Present?       Yes ® No ○			0	0.0%	
3.					
Description	3.		0 🗆	0.0%	FACW species 100 x 2 = 200
Herb Stratum (Plot size:   )			0	0.0%	FAC species $0 \times 3 = 0$
Poa palustris   80	5		0	0.0%	FACU species 0 x 4 = 0
1. Poa palustris 2. Cyperus esculentus 3. Lysimachia nummularia 4.	Herb Stratum (Plot size:	)	0 = T	otal Cover	UPL species 0 x 5 = 0
2. Cyperus esculentus       10       10.0%       FACW         3. Lysimachia nummularia       10       10.0%       FACW         4.       0       0.0%       Hydrophytic Vegetation Indicators:         5.       0       0.0%       1 - Rapid Test for Hydrophytic Vegetation         6.       0       0.0%       2 - Dominance Test is > 50%         7.       0       0.0%       3 - Prevalence Index is ≤3.0 ¹         9.       0       0.0%       4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)         10.       0       0.0%       Problematic Hydrophytic Vegetation ¹ (Explain)         1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Hydrophytic Vegetation Present?       Yes  No  No  No No No No No No No No No No	4 Description		80	80.0% FACW	Column Totals: 100 (A) 200 (B)
3. Lysimachia nummularia       10       10.0%       FACW         4.       0       0.0%       Indicators:         5.       0       0.0%       Indicators:         6.       0       0.0%       Indicators:			10	10.0% FACW	Prevalence Index = R/A = 2,000
4.	3. Lysimachia nummularia		10	10.0% FACW	
0			0 🗆	0.0%	
7.  8.  0			0	0.0%	
8.			0	0.0%	
9.					
10.					
Woodv Vine Stratum (Plot size: )					Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woodv Vine Stratum (Plot size:)  1	<u> </u>				1. Indicators of hydric soil and wetland hydrology mus
2. O O.0% Hydrophytic Vegetation Present? Yes No O	Woodv Vine Stratum (Plot size:	)	= 1	otal COVEI	be present, unless disturbed or problematic.
Vegetation Present? Yes No No	-			0.0%	Hydrophytic
	2		0 🗆	0.0%	Vegetation
Remarks: (Include photo numbers here or on a separate sheet.)			0 = T	otal Cover	Present? Yes V No V
Remarks: (Include photo numbers here or on a separate sheet.)					1
	Remarks: (Include photo numbers h	nere or on a separate sl	neet.)		

SOIL Sampling Point: w-ibl-120617-02

Drafile Deser	intion. (Deceribe	to the death a		المما ممان		mfirms the	e absence of indicators.)	
		•				miirm the	e absence of indicators.)	
Depth (inches)	Matri Color (moist)		Color (moist)	lox Featu %	<u>Type</u> 1	Loc2	Texture	Remarks
(inches)	-			-	Type		Silty Clay Loam	Remarks
0-12	10YR 5/1	85	7.5YR 4/6	15		M	Silty Clay Loan	
							·	
				-		-		
<sup>1</sup> Type: C=Con	centration, D=Depl	etion, RM=Reduc	ed Matrix, CS=Covere	ed or Coat	ed Sand Gra	ains.	4ocation: PL=Pore Lining.	M=Matrix.
Hydric Soil I	ndicators:						Indicators for Proble	matic Hydric Soils 3:
Histosol (	A1)		Sandy Gleyed	Matrix (S	4)			
I — `	pedon (A2)		Sandy Redox		•,		Coast Prairie Redox	(A16)
Black Hist			Stripped Matri				Dark Surface (S7)	
☐ Hydrogen	Sulfide (A4)				-1)		Iron Manganese Ma	sses (F12)
Stratified	Layers (A5)		Loamy Mucky				Very Shallow Dark S	Surface (TF12)
2 cm Muc			Loamy Gleyed		2)		Other (Explain in Re	
	Below Dark Surface	(Δ11)	✓ Depleted Matr				United (Explain in No	indika)
	k Surface (A12)	(A11)	Redox Dark S					
			Depleted Dark	Surface (	(F7)		Indicators of hydroph	
	ck Mineral (S1)		Redox Depres	sions (F8)			wetland hydrology	
	ky Peat or Peat (S3						unless disturbed	or problematic.
Restrictive L	ayer (if observed)	):						
Type:								
Depth (inc	hes):						Hydric Soil Present?	Yes ● No ○
Remarks:								
HYDROLC	)GY							
Wetland Hvd	rology Indicators	::						
	ators (minimum of o		heck all that apply)				Secondary Indicat	ors (minimum of two required)
✓ Surface W		one is required, of	Water-Stain	ad Laguas	(DO)			
					(D9)		Surface Soil C	, ,
I — ~	er Table (A2)		Aquatic Fau				✓ Drainage Patt	
Saturation	• •		True Aquation					ater Table (C2)
Water Ma			Hydrogen S				Crayfish Burro	
Sediment	Deposits (B2)		Oxidized Rh	izospheres	s on Living F	Roots (C3)	Saturation Vis	ible on Aerial Imagery (C9)
Drift Depo	osits (B3)		Presence of	Reduced	Iron (C4)			ressed Plants (D1)
Algal Mat	or Crust (B4)		Recent Iron	Reduction	n in Tilled So	oils (C6)	✓ Geomorphic P	osition (D2)
☐ Iron Depo	osits (B5)		☐ Thin Muck S	Surface (C	7)		✓ FAC-Neutral T	est (D5)
Inundatio	n Visible on Aerial I	magery (B7)	Gauge or W	ell Data ([	09)			
Sparsely \	Vegetated Concave	Surface (B8)	Other (Expla					
					iai no)			
Field Observ	ations:					1		
		es   No	Depth (inc	hes).	0.5			
Surface Water					0.0	-		
Water Table P		es 🔾 No 🖲	Depth (inc	hes):		_   ,		Yes ● No ○
Saturation Pre		es O No 💿	Depth (inc	:hes):		Wet	land Hydrology Present?	res 😊 NO 🔾
(includes capil	iary irrige)					-	- \ 'E'!- - -	
Describe Rec	orded Data (strea	am gauge, mon	itoring well, aerial	pnotos, <sub>I</sub>	orevious in	spections	s), if available:	
Remarks:								

Section, Township, Range: S 21 T 5E R 3N  andform (hillslope, terrace, etc.): Undulating  Local relief (concave, convex, none):  lope: 0.0% / 0.0 ° Lat.: 39.388497  Long.: -84.162911  NWI classification: N/A  re climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  re Vegetation  , Soil  , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes No   re Vegetation  , Soil  , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)  RUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No   Hydrosoil Present? Yes No   Is the Sampled Area within a Wetland? Yes No   No   Is the Sampled Area within a Wetland? Yes No C	Project/Site: Hillsboro-Hutchings	Cit	ty/County:	Warren	Sampling Date: 06-Dec-17
Local relet (concave, convex, none)   Local relet (concave, convex, none)	Applicant/Owner: AEP			State:	OH Sampling Point: w-jbl-120617-03
Section   Sect	Investigator(s): JBL, PJR		Section, Town	ıship, Range:	S 21 T 5E R 3N
Section   Street   Stratum   Plot size	Landform (hillslope, terrace, etc.): Undulating		I	Local relief (c	concave, convex, none):
and Map Limit Names: WeSSIA1  rec diswells reclybulosing conditions on the site hybical for this time of year? Yes ♥ No ○  to Vegelation	Slope: 0.0% / 0.0 ° Lat.: 39,388497		Long.:	-84.162911	Datum: NAD 83
re climatic/hydrologic conditions on the site typical for this time of year? Yes ♥ No ○ re vegetation	Soil Map Unit Name: WsS1A1			· · · · · · ·	
Vegetation   Soil   or Hydrology   significantly disturbed?   Are 'Normal Circumstance' prevent?   Yes   No   You vegetation   Soil   or Hydrology   naturally problematic?   (If needed, explain any answers in Remarks.)		vear? Yes	No ○	(If no, ex	
Management				Are "No	ormal Circumstances" present?
Section   Community   Commu	Are Vegetation , Soil , or Hydrology n	naturally proble	ematic?		·
Is the Sampled Area within a Wetland?   Ves   No   No   Wetland Hydrology Present?   Ves   No   Wetland		<b>,</b> ,		·	
Westerad Hydrology Present?   Yes	Hydrophytic Vegetation Present? Yes  No				
VEGETATION - Use scientific names of plants.   Dominant Species	Hydric Soil Present? Yes   No				
VEGETATION - Use scientific names of plants.   Species?   Tree. Stratum. (Plot size:   )   Absolute   Species?   Rel. Strat.   Indicator   Status   Species?   Status   Species?   Status   Species?   Status   Species?   Status   Species?   Status   Species   Status   Status   Species   Status   Status   Species   Status   Stat	Wetland Hydrology Present? Yes   No		*********	ira wetiane	··· Yes © NO C
Absolute   Species   Number of Dominant Species   That are OBL, FACW, or FAC:   S (A)			•		
Absolute   96 Cover   Cover   Status   Tree Stratum   (Plot size:   )   96 Cover   Status	VECETATION - Use scientific names of plan		Dinont		
Number of Dominant Species   Number of Dominant Species   Status   Number of Dominant Species   Status   Number of Dominant Species   Status   Status   Status   Species Across All Stratate   Species Across All Str	VEGETATION - Ose scientific fiames of plan		- Species?		Dentisana Takundakan
1.					
2.		0	0.0%		
3.	2	0	0.0%		Total Number of Dominant
4.	3		0.0%		
Sablina/Shrub Stratum (Plot size:   )	4				
Description   Prevalence   Index worksheet:   Total % Cover of: Multiply by:	5				
1. Acer saccharinum  5	Sanling/Shruh Stratum (Plot size:	0	= Total Cove	er	
2. Cornus amomum  5		5	50.0%	EVC/W	
3.					
4.				1713	
5.       0       0.0%       FACU species       12       x 4 = 48         Herb Stratum (Plot size:)       10       = Total Cover       UPL species 0       x 5 = 0         1, Echinochloa crus-gallii       20       19.6% FACW       FACW       Column Totals:	4.				
Herb Stratum (Plot size:	5.	0	0.0%		
1. Echinochloa crus-gallii       20       ✓ 19.6% FACW       Column Totals: 112 (A) 218 (B)         2. Juncus effusus       20       ✓ 19.6% OBL       Prevalence Index = B/A = 1.946         3. Eupatorium perfoliatum       10       9.8% OBL       Hydrophytic Vegetation Indicators:         4. Ludwigia alternifolia       8       7.8% OBL       Hydrophytic Vegetation Indicators:         5. Agrostis stolonifera       12       ✓ 11.8% FACU       ✓ 2 - Dominance Test is > 50%         7. Vernonia gigantea       8       7.8% FACU       ✓ 3 - Prevalence Index is ≤ 3.0 ¹         8. Carex vulpinoidea       7       6.9% FACW       ✓ 3 - Prevalence Index is ≤ 3.0 ¹         9. Bidens frondosa       5       4.9% FACW         10.       0       0.0%         Woodv Vine Stratum (Plot size: )       1       10.0%         1. O 0       0.0%       Hydrophytic Vegetation 1 (Explain)         1. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.       Yes No O	Herb Stratum (Plot Size:	10	= Total Cove	er	
2. Juncus effusus  3. Eupatorium perfoliatum  4. Ludwigia alternifolia  5. Agrostis stolonifera  6. Setaria faberi  7. Vernonia gigantea  8. Carex vulpinoidea  9. Bidens frondosa  10. □ 0.0%  Woody Vine Stratum (Plot size: )  1. □ 0 □ 0.0%  10.	4 Fabinashlas and salli	20	<b>✓</b> 19.6%	FACW	Column Totals: 112 (A) 218 (B)
3. Eupatorium perfoliatum  4. Ludwigia alternifolia  5. Agrostis stolonifera  6. Setaria faberi  7. Vernonia gigantea  8. Carex vulpinoidea  9. Bidens frondosa  10.  10.  10.  10.  10.  10.  10.  10	2				
4. Ludwigia alternifolia  5. Agrostis stolonifera  6. Setaria faberi  7. Vernonia gigantea  8. Carex vulpinoidea  9. Bidens frondosa  10.  10.  10.  10.  10.  10.  10.  10	-		9.8%	OBL	
12	4. Ludwigia alternifolia	8	7.8%	OBL	
7. Vernonia gigantea  8. Carex vulpinoidea  9. Bidens frondosa  10.  10.  10.  10.  10.  10.  10.  10	5. Agrostis stolonifera	12	11.8%	FACW	
8 Carex vulpinoidea 9 Bidens frondosa 10.  10.  10.  10.  10.  10.  10.  10.	-	12	11.8%	FACU	l
9. Bidens frondosa 10.    Moody Vine Stratum (Plot size:   )					I <u>—</u>
10.  Woody Vine Stratum (Plot size:  1.  0					
102   = Total Cover   1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   1.				FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Moody Vine Stratum (Plot size:)  1			-		1. Indicators of hydric soil and wetland hydrology must
2. O O.0% Vegetation Present? Yes No No				51	be present, unless disturbed or problematic.
Vegetation Present? Yes No No	·				Hydrophytic
	2				Vegetation
Remarks: (Include photo numbers here or on a separate sheet.)		0	= Total Cove	er	Present? Tes © NO C
	Remarks: (Include photo numbers here or on a separate sl	heet.)			

SOIL Sampling Point: w-ibl-120617-03 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Type 1 (inches) Color (moist) Color (moist) % Loc2 0-15 10YR 5/1 80 10YR 4/6 20 С M Silty Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 4.ocation: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils 3: Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) ✓ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, unless disturbed or problematic. ✓ Redox Depressions (F8) 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Yes **Hydric Soil Present?** No O Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) ✓ Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) High Water Table (A2) Drainage Patterns (B10) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Geomorphic Position (D2) Recent Iron Reduction in Tilled Soils (C6) ▼ FAC-Neutral Test (D5) Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Yes No O Depth (inches): Surface Water Present? Yes  $\bigcirc$ No Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes  $\bigcirc$ No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: Hillsboro-Hutchings	Cit	ty/County:	Warren	Sampling Date: 06-Dec-17
Applicant/Owner: AEP			State:	OH Sampling Point: w-jbl-120617-01
Investigator(s): JBL, PJR		Section, Town	 nship, Range:	S 3 T 4E R 3N
Landform (hillslope, terrace, etc.): Flat		1	Local relief (c	concave, convex, none): flat
Slope: 0.0% / 0.0 ° Lat.: 39.402549		Long.:	-84.211750	Datum: NAD 83
Soil Map Unit Name: FhA				NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of y	vear? Yes	● No ○	(If no, ex	plain in Remarks.)
	significantly dis		Are "No	ormal Circumstances" present? Yes   No
Are Vegetation , Soil , or Hydrology n	naturally proble	ematic?	(If need	ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	• •		`	,
Hydrophytic Vegetation Present? Yes • No •				
Hydric Soil Present? Yes   No			e Sampled A n a Wetland	
Wetland Hydrology Present? Yes ● No ○				··· res © NO C
Remarks:		<u> </u>		
<b>VEGETATION</b> - Use scientific names of plan	nts.	Dominant		
	Absolute	- Species? Rel.Strat.	Indicator	Dominance Test worksheet:
	% Cover	Cover	Status	Number of Dominant Species
1		0.0%		That are OBL, FACW, or FAC:5(A)
2		0.0%		Total Number of Dominant
34.		0.0%		Species Across All Strata: 5 (B)
5.	0	0.0%		Percent of dominant Species
	0	= Total Cove	er	That Are OBL, FACW, or FAC:100.0% (A/B)
_Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1. Cornus amomum	5	100.0%	FACW	Total % Cover of: Multiply by:
2	0	0.0%		OBL species <u>65</u> x 1 = <u>65</u>
3	0	0.0%		FACW species 35 x 2 = 70
4. 5.	0	0.0%		FACUL procises 10 x 3 = 30
				FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
Herb Stratum (Plot size:)				
1 Phalaris arundinacea		19.0%	FACW	Column Totals: <u>110</u> (A) <u>165</u> (B)
Scirpus cyperinus     Typha angustifolia	25	<ul><li>9.5%</li><li>✓ 23.8%</li></ul>	OBL	Prevalence Index = B/A =1.500_
1		✓ 23.8% ✓ 14.3%	OBL	Hydrophytic Vegetation Indicators:
Leersia oryzoides     Epilobium coloratum		<b>✓</b> 14.3%	OBL	1 - Rapid Test for Hydrophytic Vegetation
6. Euthamia graminifolia	10	9.5%	FACW	2 - Dominance Test is > 50%
7. Juncus tenuis	10	9.5%	FAC	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0	0.0%		<ul> <li>4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> </ul>
9. 10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.	0	0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	105	= Total Cove	er	be present, unless disturbed or problematic.
1,	0	0.0%		
2	0	0.0%		Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes No
Remarks: (Include photo numbers here or on a separate sl	heet.)			

SOIL Sampling Point: w-ibl-120617-01 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth Type 1 (inches) Color (moist) Color (moist) % Loc2 Texture 0-11 10YR 5/1 95 10YR 4/6 5 С M Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining. M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils 3: Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Stripped Matrix (S6) ☐ Iron Manganese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF12) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Other (Explain in Remarks) ✓ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) ☐ Thick Dark Surface (A12) Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation and Sandy Muck Mineral (S1) wetland hydrology must be present, Redox Depressions (F8) unless disturbed or problematic. 5 cm Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Yes **Hydric Soil Present?** No O Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) ✓ High Water Table (A2) Drainage Patterns (B10) Aquatic Fauna (B13) ✓ Saturation (A3) True Aquatic Plants (B14) Dry Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Geomorphic Position (D2) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) ✓ FAC-Neutral Test (D5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: No Depth (inches): Surface Water Present? Yes No O Water Table Present? Depth (inches): Yes ● No ○ Wetland Hydrology Present? Saturation Present? Yes No O Depth (inches): 0 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: Hillsboro-Hutchings	City/County: Warren	Sampling Date: 05-Dec-17
Applicant/Owner: _AEP	State	: OH Sampling Point: w-jbl-120517-03
Investigator(s): JBL, PJR		:: S T R
Landform (hillslope, terrace, etc.): Lowland		concave, convex, none):
Slope: 0.0% / 0.0 ° Lat.: 39.413989	Long.: -84.25154	1 Datum: NAD 83
Soil Map Unit Name: MrC2		NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of	f year? Yes   No   (If no, e	explain in Remarks.)
		ormal Circumstances" present?
Are Vegetation , Soil , or Hydrology	naturally problematic? (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sho	,	
Hydrophytic Vegetation Present? Yes No		·
Hydric Soil Present? Yes ● No ○	Is the Sampled	
Wetland Hydrology Present? Yes No	within a Wetlan	d? Yes ● No ○
Remarks:		
pasture and vacantvlot wetland		
VEGETATION - Use scientific names of pla	nts Daminant	
VEGETATION - Ose scientific flames of pla	Species?	Dominance Test worksheet:
	Absolute Rel.Strat. Indicator % Cover Cover Status	
1	0 0.0%	Number of Dominant Species That are OBL, FACW, or FAC: (A)
2		Total Number of Deminant
3	0 0.0%	Total Number of Dominant Species Across All Strata: (B)
4	0	Described developed Constant
5	0 0.0%	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
_Sapling/Shrub Stratum (Plot size: )	= Total Cover	
1. Cornus amomum	10 🗹 100.0% FACW	Prevalence Index worksheet:  Total % Cover of: Multiply by:
2.	0 0.0%	OBL species 90 x 1 = 90
3.	0 0.0%	FACW species 15 x 2 = 30
4	0 0.0%	FAC species $0 \times 3 = 0$
5	0 0.0%	FACU species 0 x 4 = 0
Herb Stratum (Plot size:	10 = Total Cover	UPL species
1. Typha angustifolia	90 <b>✓</b> 94.7% OBL	Column Totals:105 (A)120 (B)
2. Poa palustris	5	Prevalence Index = B/A = 1.143
3	0 0.0%	Hydrophytic Vegetation Indicators:
4	0	✓ 1 - Rapid Test for Hydrophytic Vegetation
5.	0	✓ 2 - Dominance Test is > 50%
6. 7.		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		4 - Morphological Adaptations 1 (Provide supporting
9.	0 0.0%	data in Remarks or on a separate sheet)
10.	0 0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Wester Visa Charter (Diet cize)	95 = Total Cover	1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0 0.0%	so prosent, unioss disturbed of problematic.
1 2.	0 0.0%	Hydrophytic
<u>-</u>	0 = Total Cover	Vegetation Present? Yes No No
Remarks: (Include photo numbers here or on a separate s	sheet.)	
· ·		

SOII Sampling Point: w-ibl-120517-03

Profile Descr	ription: (Describe t	o the depth ne	eded to document	the indi	cator or cor	nfirm the	e absence of indicators.)	опи. <u>- <b>W-IDI-120317-03</b></u>
Depth	Matrix	-		ox Featı			_	
(inches)	Color (moist)	%	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-11	10YR 5/1	85	7.5YR 4/6	15	С		_	
				E-				
	-							
J.	· · · · · · · · · · · · · · · · · · ·	ion, RM=Reduc	ed Matrix, CS=Covere	d or Coat	ted Sand Grai	ns.	4Location: PL=Pore Lining. N	∕I=Matrix.
Hydric Soil I							Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (	,		Sandy Gleyed		4)		Coast Prairie Redox (	A16)
	pedon (A2)		Sandy Redox (				Dark Surface (S7)	•
Black Hist	Sulfide (A4)		Stripped Matrix				☐ Iron Manganese Mas	ses (F12)
	Layers (A5)		Loamy Mucky				Very Shallow Dark Su	
2 cm Muc			Loamy Gleyed		2)		Other (Explain in Rer	` '
	Below Dark Surface (	′ <b>Λ11</b> )	✓ Depleted Matri				U Ottlei (Explain in Rei	ridi KS)
	k Surface (A12)	(411)	Redox Dark Su					
	ick Mineral (S1)		Depleted Dark				Indicators of hydrophy	
	ky Peat or Peat (S3)		✓ Redox Depress	sions (F8)	)		wetland hydrology unless disturbed o	
							unicas distarbed e	- problematic.
	ayer (if observed):							
Type: Depth (inc	hos).						Hydric Soil Present?	Yes   No
	iles)						<u> </u>	
Remarks:								
LIVERGL	NOV							
HYDROLC	JGY							
Wetland Hyd	rology Indicators:							
Primary Indica	ators (minimum of or	e is required; cl	neck all that apply)				Secondary Indicato	ors (minimum of two required)
✓ Surface W	/ater (A1)		☐ Water-Staine	ed Leaves	s (B9)		Surface Soil Cr	acks (B6)
☐ High Wat	er Table (A2)		Aquatic Faur	na (B13)			Drainage Patte	rns (B10)
☐ Saturation	n (A3)		True Aquation	: Plants (I	314)		Dry Season Wa	iter Table (C2)
☐ Water Ma	rks (B1)		Hydrogen Su	ılfide Odo	or (C1)		Crayfish Burrov	vs (C8)
Sediment	Deposits (B2)		Oxidized Rhi	zosphere	s on Living Ro	oots (C3)	Saturation Visil	ole on Aerial Imagery (C9)
☐ Drift Depo	osits (B3)		Presence of	Reduced	Iron (C4)		Stunted or Stre	essed Plants (D1)
☐ Algal Mat	or Crust (B4)		Recent Iron	Reduction	n in Tilled Soi	ls (C6)	<b>✓</b> Geomorphic Po	sition (D2)
☐ Iron Depo	osits (B5)		Thin Muck S	urface (C	7)		✓ FAC-Neutral Te	est (D5)
Inundatio	n Visible on Aerial Im	nagery (B7)	Gauge or We	ell Data (	D9)			
Sparsely \	Vegetated Concave S	urface (B8)	Other (Expla	in in Rem	narks)			
			•					
Field Observ								
Surface Water	Present? Yes	s 💿 No C	Depth (incl	hes):	1			
Water Table P	resent? Ve	s O No •	Depth (incl	hes).				
Saturation Pre				_		Wet	land Hydrology Present?	Yes   No
(includes capil		s O No 💿	Depth (incl	hes):				
Describe Rec	orded Data (strear	m gauge, mon	itoring well, aerial <sub>l</sub>	photos,	previous ins	pections	s), if available:	
Remarks:								

This foregoing document was electronically filed with the Public Utilities

**Commission of Ohio Docketing Information System on** 

1/3/2020 12:26:36 PM

in

Case No(s). 19-1987-EL-BLN

Summary: Letter of Notification Letter of Notification for the Clinton County (Duke)- Hillsboro 138 kV Line Project- SET 1 electronically filed by Tanner Wolffram on behalf of AEP Ohio Transmission Company, Inc.