

**Legal Department** 

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

May 31, 2018

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

Re: In the Matter of the Letter of Notification for the Adjustment to Heppner-Rhodes 138 kV Transmission Line Rebuild Project, Case No. 18-0872-EL-BLN Request for Expedited Treatment

Dear Chairman Haque,

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

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

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

Respectfully submitted,

/s/ Christen Blend

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

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

# LETTER OF NOTIFICATION For Adjustment to Heppner-Rhodes 138 kV Transmission Line Rebuild Project



PUCO Case No. 18-0872-EL-BLN

Submitted to:

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

Submitted by:

AEP Ohio Transmission Company, Inc.

May 31, 2018

#### LETTER OF NOTIFICATION

# AEP Ohio Transmission Company, Inc.'s Heppner-Rhodes 138 kV Transmission Line Rebuild Project

#### 4906-6-05

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

# 4906-6-05(B) General Information

# **B(1) Project Description**

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

AEP Ohio Transco proposes an adjustment to the approved Heppner-Rhodes 138 kV Transmission Line Rebuild Project (Case Number 17-0807-EL-BLN), which will be referred to as Adjustment to Heppner-Rhodes 138 kV Transmission Line Rebuild Project ("Project"). The Project is located in Coal and Lick Townships, Jackson County, Ohio. The Project involves building approximately 0.2 miles of 138 kV transmission line between the Poston-Lick 138 kV transmission line and the and proposed Rhodes Substation. Figures 1 and 2 show the location of the Project in relation to the surrounding vicinity.

The Project meets the requirements for a Letter of Notification ("LON") because it is within the types of projects defined by (1)(d)(ii) of Appendix A to Ohio Administrative Code Section 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

- 1. New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distributions line(s) for operation at a higher transmission voltage as follows:
  - (d) Line(s) primarily needed to attract or meet the requirements of a specific customer or customers, as follows:
    - ii. Any portion of the line is on property owned by someone other than the specific customer or applicant.

The Project has been assigned PUCO Case No. 18-0872-EL-BLN.

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#### B(2) Statement of Need

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

The existing portion of a current distribution line that is proposed to be rebuilt as the Heppner – Rhodes 138kV Transmission Line was originally constructed in 1926 with wood poles and 4/0 copper conductor. The aging structures and conductor require upgrades to meet AEP Ohio Transco's current transmission facility standards in order to ensure service adequacy and reliability to AEP Ohio Transco's customer, the City of Jackson, which requires significant support due to its population and industry, as well as to other portions of Ross and Jackson Counties. Rebuilding this circuit and constructing the Rhodes 138/69 kV substation, which is the subject of another application, will provide the area a third power source, improving the reliability for customers in the area.

For purposes of PJM Interconnection, LLC Regional Transmission, the proposed facility is a supplemental project that is necessary to renew and modernize the area's aging transmission line infrastructure. The Project will strengthen the 138 kV transmission network in southeast/southern Ohio, support the electrical load required in future economic development in that area, and provide transmission grid reliability and resiliency. This Project was submitted at the PJM RTEP meeting on March 24, 2017 and is included in AEP Ohio Transco's 2018 Long Term Forecast Report (FE-T9, page 8 of 60, see Appendix B). The PJM identifier for the Project is S1342.

#### **B(3) Project Location**

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

The location of the Project in relation to existing transmission lines and stations is shown on Figure 1. Figure 2 identified the Project components on a 2015 aerial photograph.

#### **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.

AEP Ohio Transco previously filed an LON for the Heppner-Rhodes 138 kV transmission line in Case No. 17-0807-EL-BLN. That application was automatically approved on February 13, 2018. See Case No. 17-0807-EL-BLN, Staff Report of Investigation at 1 (Feb. 6, 2018). After the automatic approval date for that project, AEP Ohio Transco determined that the initial, approved alignment for the Heppner-Rhodes 138 kV transmission line, specifically the alignment in the vicinity of the Rhodes Substation, was not feasible. Due to the increased voltage of the new transmission line and distribution underbuild, AEP Ohio Transco determined that there is not enough clearance on the existing Poston-Lick 138 kV transmission line to allow AEP Ohio Transmission Company, Inc.

Adjustment to Heppner-Rhodes 138 kV Transmission Line

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for the Heppner-Rhodes 138 kV transmission line to cross undernearth. Therefore, the Company has proposed an adjustment to the Heppner-Rhodes 138 kV transmission line, which is the subject of this Project filing. The Project parallels and utilitizes a portion of the existing Poston-Lick 138 kV transmission right-of-way (ROW). No other alternatives were considered for the Project. Significant negative socioeconomic, ecological, or construction impacts from the proposed adjustment are not expected, as the new line will be adjacent and utilitize a portion of the existing Poston-Lick 138 kV transmission line ROW.

#### **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 this Project through several different mediums. Within seven days after its files 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 of O.A.C. 4906-6-08(A)(1)-(6). Further, AEP Ohio Transco will mail 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 Project. That letter will comply with all the requirements of O.A.C. 4906-6-08(B). AEP Ohio Transco also maintains a website (http://aeptransmission.com/ohio/) which provides the public access to an electronic copy of this LON and the public notice for this LON. A paper copy of the LON will be provided to Jackson County Board of Commissioners, the Jackson County Engineer, Jackson County Soil and Water Conservation District, Coal Township Trustees, the Coal Township Fiscal Officer, Lick Township Board of Trustees, City of Jackson Mayor Randy Heath, and City of Jackson Councilman Eric Brown concurrently with its submittal to OPSB. A paper copy of the LON will also be provided to the Jackson City Library. 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.

AEP Ohio Transco anticipates that construction of the Project will begin in the fall of 2018, and the inservice date of the Project will be approximately May 2019.

#### B(7) Area Map

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

Figure 1 identifies the location of the Project area on a United States Geological Survey 1:24,000 quadrangle map. Figure 2 is an aerial map of the Project area.

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To visit the Project from Columbus, Ohio, take US-23 S toward Circleville for approximately 40 miles. Continue onto US-35 E/US-50 E toward Jackson/Athens for approximately 28 miles, take the ramp right for OH-32/OH-124 and turn left. After 3.0 miles, turn left onto Rice Road, then turn right onto Fairgreens Road. Drive 1.5 miles and turn left. The eastern terminus of the Project (proposed Rhodes Subtation) will be 0.2 miles on the left side of Fairgreens Road. The approximate address of the proposed Rhodes Substation is 3103 Fairgreens Road, Jackson, Ohio 45640 at latitude 39.0824, longitude -82.5492.

#### **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 will generally be constructed adjacent to the existing Poston-Lick 138 kV transmission line ROW. Provided below is a table of parcel numbers and an indication of if the easement/option necessary to construct and operate the facility has been obtained.

Property Parcel Number	Easement/ Option Obtained (Yes/No)*
B020020017900	No
B020020017600	Yes
H130010000200	Yes

<sup>\*</sup>AEP Ohio Transco may supplement its existing rights under certain blanket easements identified above

#### **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 Strands CURLEW ACSR Static Wire: 7#10 Alumoweld 7 Strands Alumoweld

Insulators: 25 Kip Polymer Suspension & 50 kip Polymer Strain

ROW Width: 100 Feet

Structure Types: (2) Guyed 3-pole dead-end

(1) H-frame tangents

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#### 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

No occupied residences or institutions are located within 100 feet of the Project.

#### **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.

No occupied residences or institutions are located within 100 feet of the Project.

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

The estimated capital cost of the project.

The capital costs estimate for the Project is approximately \$400,000. However, the cost estimate for the entire Heppner-Rhodes Project including the proposed adjustment, comprised of applicable tangible and capital costs, is approximately \$7,000,000.

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

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

# B(10)(a) Operating Characteristics

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

The Project is located in Coal and Lick Townships, Jackson County, Ohio; outside the city limits of the City of Jackson. Land uses in the Project area consists of deciduous forest and open land.

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

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

The Project is not located within a registered agricultural district lands, based on May 15, 2018 coordination with the Jackson County Auditor's Office. Additionally, the Project area does not contain any active agricultural row crop land.

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

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

In April and May 2018, AEP Ohio Transco's consultant completed an addendum to the previously conducted Phase I cultural resource investigations for the Project, which will be provided to OPSB under separate cover. The field investigations were conducted for the Project only in areas outside of the previous survey conducted for the initial filing of the Heppner-Rhodes application.

The archaeological field reconnaissance determined that the majority of the Project area is situated in fallow and forested conditions, all of which are located in steeply sloping areas. Visual inspection of the areas and the soils survey indicated that the landforms have greater than 15 percen slope. There were no cultural materials identified in the Project area and the planned work will not impact/involve any significant cultural resources or land marks. No further archaeological work is considered to be necessary for the Project. The Ohio History Connection concurrence letters for the Project and the initial Heppner-Rhodes Phase I cultural resource investigations can be found in Appendix C.

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

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHCooooo5, and AEP Ohio Transco will implement and maintain best management practices (BMPs), as outlined in the project-specific Storm Water Pollution Prevention Plan (SWPPP), to minimize erosion and control sediment to protect surface water quality during storm events. The Project will temporarily impact streams and wetlands during construction, however, it is anticipated that the Project will meet the terms and conditions of the preauthorized Section 401 Water Quality Certification from the OEPA.

The Project is not located within a Federal Emergency Management Agency ("FEMA") 100-year floodplain area. Therefore, no floodplain permitting is required for the Project.

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

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#### 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") Federally Listed Species by Ohio Counties May 2017 (available at https://www.fws.gov/midwest/endangered/lists/pdf/OhioCtyListMay2017.pdf) was reviewed to determine the threatened and endangered species known to occur in Jackson County. This USFWS publication lists the following species as occurring within Jackson County: Indiana bat (Myotis sodalis; federally endangered), northern long-eared bat (Myotis septentrionalis; federally threatened), running buffalo clover (trifolium stoloniferum; federally endangered), timber rattlesnake (Crotalus horridus; federal species of concern), and bald eagle (Haliaeetus leucocephalus; federal species of concern). As part of the ecological study completed for the the approved Heppner-Rhodes 138 kV Transmission Line Rebuild Project (Case Number 17-0807-EL-BLN), which covers the Project area, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The June 2, 2017 response letter from USFWS (see Appendix D) indicated that the proposed Project is within the range of the Indiana bat and northern long-eared bat in Ohio, but if tree clearing occurs between October 1 and March 31, they do not anticipate the Project having any adverse effects to these species or any other federally listed endangered, threatened, proposed, or candidate species. The Project will require tree clearing within the new ROW. AEP Ohio Transco anticipates tree clearing associated with the Project will occur between October 1 and March 31.

Several state-listed threatened species, endangered species, and species of concern are listed by the ODNR (available at http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/state-listed%20species/jackson.pdf) as occurring, or potentially occurring in Jackson County. These state-listed species are addressed in detail in the Ecological Survey Report included in Appendix D.

A coordination letter was submitted to the Ohio Department of Natural Resources ("ODNR"), Division of Wildlife ("DOW") Natural Heritage Program ("NHP") in May 2017, for the approved Heppner-Rhodes 138 kV Transmission Line Rebuild Project (Case Number 17-0807-EL-BLN), which covers the Project area. The letter was seeking an environmental review of the Project for potential impacts on state-listed and federally-listed threatened or endangered species. The October 20, 2017 response letter indicated (Project ID 17-638) that the Cerulean Warbler (*Setophaga cerulea*), a state and federal species of concern has records within a one-mile radius of the Project area. However, impacts to the nesting Cerulean Warbler are not anticipated as tree clearing is anticipated to be completed outside of the species' nesting season. The response letter is also within the range of the Indiana bat, a state endangered and federally endangered species, but if tree clearing occurs between October 1 and March 31, the ODNR DOW does not anticipate the Project having any adverse effects to the Indiana bat. The Project is also located within the range of the following state listed species: little spectaclecase (*Villosa lienosa*), Ohio lamprey (*Ichthyomyzon bdellium*), lake chubsucker (*Erimyzon sucetta*), timber rattlesnake (*Crotalus horidus* 

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horridus), Kirtland's snake (*Clonophis kirtlandii*), mud salamander (*Pseudotriton montanus*), and black bear (*Ursus americanus*). In regards to the little spectaclecase, the Project is not likely to impact this species due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size. For the Ohio lamprey and lake chubsucker, the DOW recommends no in-water work in perennial streams from April 15 through June 30 to reduce impacts to these indigenous aquatic species and their habitat; these species will not be impacted as no instream work is proposed for the Project. As for the remaining species, the Project is not likely to impact the timber rattlesnake, Kirtland's snake, mud salamander, and black bear due to the Project location, type of habitat along the Project route and within the vicinity of the Project route, or the mobility of the species per the ODNR.

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

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

The Project area is within the area previously coordinated with the ODNR and USFWS as part of the the approved Heppner-Rhodes 138 kV Transmission Line Rebuild Project (Case Number 17-0807-EL-BLN). The ODNR DOW NHP responded in a letter dated October 20, 2017 (Project ID 17-638) indicating that the Coalton Wildlife Area (managed by the ODNR DOW) is located within a one-mile radius of the Project area. The Coalton Wilfe Area is a 1,729 acre tract of land managed for public hunting and fishing and is located approximately 1,800 feet north of the proposed Heppner Station. The Colaton Wildlife Area will not be impacted by the Project. The USFWS Columbus Ecological Services Office responded in an email dated may 31, 2017 (Project ID 03E15000-2017-TA-1326) indicating that there are no federal wilderness areas, wildlife reguges, or designated critical habitat within the vicinity of the Project area. Consultation with the ODNR NHP and USFWS is provided in Appendix D.

No properties identified in the National Conservation Easement Database (http://www.conservationeasement.us) were identified in the Project vicinity.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project area (specifically, map number 39079Co16oK). Based on this mapping, no mapped FEMA floodplains are located in the Project area.

A review of the National Wetlands Inventory ("NWI") database indicated that there were no NWI-mapped wetlands identified within the Project area. Wetland and stream delineation field surveys were completed for the initial Heppner-Rhodes project by AEP Ohio Transco's consultant in July and December 2017 and revised to include the adjustment to the Heppner-Rhodes line in April 2018. During the April 2018 survey, one (1) wetland (W010) was expanded within the Project area. One (1) wetland and one (1) stream were identified within the Project area. The results of the wetland and stream delineations for the initial

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Heppner-Rhodes project, as well as a revised map showing the expanded wetland within the Project area, are presented in the Ecological Survey Report included in Appendix D.

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

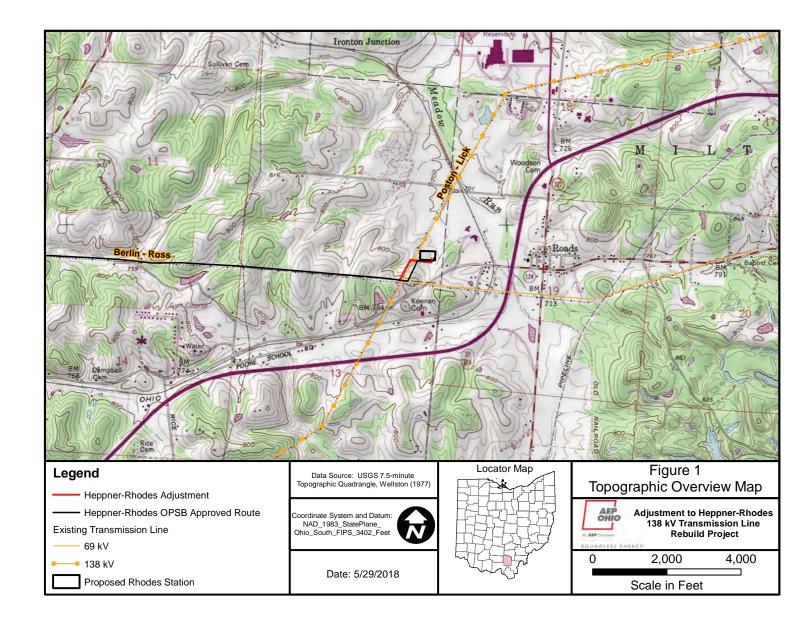
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

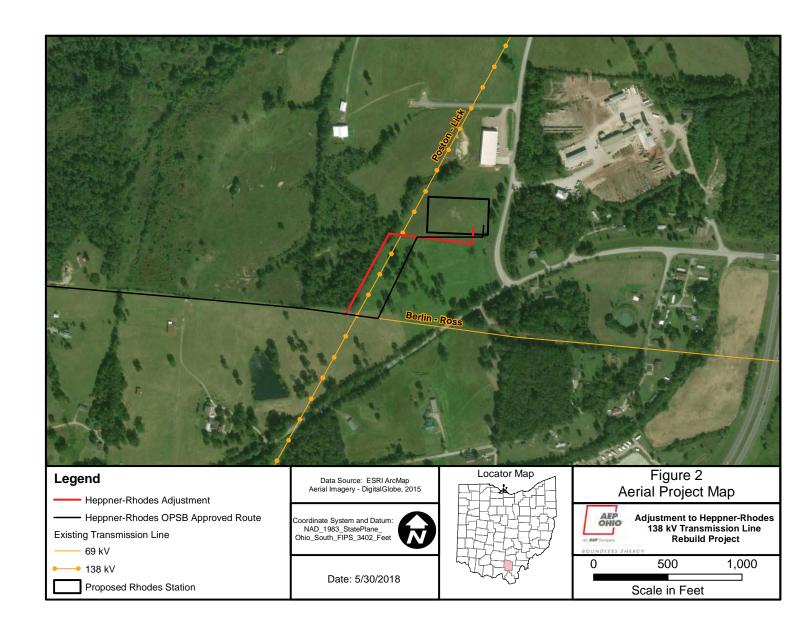
To the best of AEP Ohio Transco's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Appendix A Project Maps May 2018

# Appendix A Project Maps

Figures 1 and 2





Appendix B PJM Submittal and 2018 Long Term Forecast Report May 2018

Appendix B PJM Submittal and 2018 Long Term Forecast Report

# **PJM Submittal**



# AEP Transmission Owner Criteria Violation and Supplemental Project

#### Problem Statement:

The City of Jackson has requested a new 69kV delivery point (Ironman Switch) capable of carrying their entire load, which will be –37 MW due to a 4 MW load increase by the City. This new delivery point will be redundant with the existing 138kV delivery point out of Lick Station.

After the customer load is connected and is at the full capacity, there is an N-1 violation that drops the voltage at the customer bus to ~65% and thermally overloads the Lick-Ross 69kV Circuit to 130%. To solve this violation, a new 138/69kV station will be established (Rhodes Station), injecting a 3rd source onto the Lick-Ross 69kV circuit. Following the solution, no N-1 or N-1-1 violations appear.

The new City of Jackson delivery point is directly adjacent to the existing Berlin-Lick-Ross 69kV circuit. Of the 37+ miles of conductor on the circuit, 88% (32.96 miles) is original from the 1926 line construction – mostly 4/0 ACSR Penguin (50 MVA rating). Of the 275 structures, 98% (269) are wood and 43% (119) are older than 1960. There are 241 open conditions on the line, including issues with conductor, structures, and ROW encroachments. The line has been responsible for 1.4M CMI from 2013-2015, including over 12.5k customer interruptions. It is recommended that this circuit be rebuilt to 138kV standards in anticipation of a future 138kV conversion to become an additional 138kV path to support Ross Station as there is only one 138 kV source that currently feeds Ross station from the South.

Issues at every switch structure on this circuit (Coalton Sw, Pine Ridge Sw, Vigo, and Ginger) complicates any planned outages as momentary outages are required at all three stations in order to isolate a circuit section. AEP's MPOI calculation justifies the installation of breakers at Heppner station, which will replace Coalton switch. –City of Jackson, Jackson County, OH

Continued on next slide...

# **AEP Transmission Zone**



PJM SRRTEP – West 4/21/2017 24 PJM©2017



#### **AEP Transmission Owner Criteria Violation and Supplemental Project**

Continued from previous slide...

#### Potential Alternative Solutions Considered:

- Extend 69kV from East Beaver-Buckeye Co-Op to Pine Ridge, construct ring bus at Pine Ridge. This alternative was ruled out due to the need to rebuild the radial from East Beaver-Buckeye Co-Op (4.53 miles) and the need for 7 miles of new right-of-way to extend the line to Pine Ridge. Estimated Cost: \$34M New 138/69kV Transformer at Corwin, 69kV line extension through AEP's retired Berlin Station. Expansion difficulties at Corwin would likely lead to a complete rebuild of the station, plus an additional mile of 69kV greenfield line in addition to constructing Rhodes station. Estimated Cost: \$23M

#### **Preliminary Solution:**

Install a new Ironman Switch to serve a new delivery point requested by the City of Jackson for a load increase request. Establish a new 138/69 kV station (Rhodes) to serve as a third source to the area to help relieve overloads caused by the customer load increase. Replace Coalton Switch with a new three breaker ring bus (Heppner). (Baseline)

Estimated Cost: \$13M

Rebuild approximately 6 miles of line from Rhodes to Heppner and from Heppner to Lick with 1033 ACSR (148 MVA rating). Build for future 138 kV conversion. (Supplemental)

Estimated Cost: \$7M

Required IS date: 3/1/2018

Status: Engineering

# **AEP Transmission Zone**



PJM SRRTEP - West 4/21/2017 25 PJM©2017

# 2018 Long Term Forecast Report

# AEP OHIO TRANSMISSION COMPANY, INC.

# LONG-TERM FORECAST REPORT TO THE PUBLIC UTILITIES COMMISSION OF OHIO

Case No. 18-1501-EL-FOR

2018

**ELECTRIC** 

# LONG-TERM FORECAST REPORT TO THE PUBLIC UTILITIES COMMISSION OF OHIO

# Submitted by

AEP Ohio Transmission Company, Inc. 700 Morrison Road Gahanna, Ohio 43230 Telephone: (614) 716-1000

#### CERTIFICATE OF SERVICE

# I hereby certify that:

- Pursuant to Section 4901:5-1-03(F), Ohio Administrative Code, copies of AEP Ohio Transmission Company, Inc.'s 2018 Long-Term Forecast Report have been delivered or mailed to the Office of Consumers' Counsel on the day of the filing;
- Pursuant to Section 4901:5-1-03(G), Ohio Administrative Code, a letter of notification stating where copies of AEP Ohio Transmission Company, Inc.'s 2018 Long-Term Forecast Report to the Public Utilities Commission of Ohio may be obtained, will be sent by first class mail to the appropriate county libraries within three days of filing;
- 3. Pursuant to Section 4901:5-1-03(H), Ohio Administrative Code, AEP Ohio Transmission Company, Inc. will keep at least one copy of their 2018 Long-Term Forecast Report at their principal business office for public inspection during business hours; and
- 4. Pursuant to Section 4901:5-1-03(I), Ohio Administrative Code, AEP Ohio Transmission Company, Inc. will provide a copy of their 2018 Long-Term Forecast Report to any person upon request at a cost to cover the expenses incurred.

Steve T. Nourse

American Electric Power Service Corporation

1 Riverside Plaza

Columbus, Ohio 43215

(614) 716-1608

Attorney for AEP Ohio Transmission Company, Inc.

April 16, 2018 Dated this day in Columbus, Ohio

# STATEMEMENT PURSUANT TO SECTION 4901:5-1-03(D), OHIO ADMINISTRATIVE CODE

AEP Ohio Transmission Company, Inc.'s 2018 Long-Term Forecast Report is true and correct to the best of my knowledge and belief.

Robert W. Bradish

Vice President, Transmission Planning and Engineering

AEP Ohio Transmission Company, Inc.

April 16, 2018 Dated this day in Columbus, Ohio

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# AEP OHIO TRANSMISSION COMPANY, Inc. LTFR TRANSMISSION FORMS

Case No. 18-1501-EL-FOR

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

+	Line Name and Number:	Berlin - Lick - Ross
2.	Points of Origin and Termination:	Heppner/Rhodes; Intermediate Station - N/A
3.	Right-Of-Way:	~4.2 miles / 100 ft / 1 ckt
4	Voltage:	138KV / 69KV
5.	Application For Certificate:	2018
9	Construction:	2018
7.	Capital Investment:	\$20M
ω.	Planned Substations:	Name - Rhodes; Voltage - 138/12kV; Acreage - N/A; Location - Jackson
9.	Supporting Structures:	steel H - frame
10.	Participation with Other Utilities:	N/A
1.	Purpose of the Planned Transmission Line	Tie 138kV Lick-Corwin line to Lick Ross line for reliability
12.	Consequences of Line Construction Deferment or Termination:	Reduced reilability for Jackson County customers
13.	Miscellaneous	

Appendix C Ohio History Connection Concurrence Letters May 2018

# **Appendix C Ohio History Connection Concurrence Letters**



In reply refer to 2017-JAC-40081

October 23, 2017

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

RE: Heppner-Rhodes 69kV/138kV Rebuild Project in Lick and Coal Townships, Jackson County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on September 25, 2017 regarding the proposed Heppner-Rhodes 69kV/138kV Rebuild Project, Lick and Coal Townships, Jackson County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-4). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C.470 [36 CFR 800]).

The following comments pertain to the Phase I Archaeological Investigations for the Proposed 6.4 km (4.0 mi) Heppner-Rhodes 69kV/138kV Rebuild Project in Lick and Coal Townships, Jackson County, Ohio by Weller & Associates, Inc. (2017).

A literature review, visual inspection, shovel probe excavation, and shovel test unit excavation was completed as part of the investigations. No previously inventoried Ohio Archaeological Inventory (OAI) site is located within the project area. Three (3) Ohio Archaeological Inventory (OAI) sites were identified as part of this survey. OAI#33JA0408 and 33JA0410 are prehistoric period lithic scatters that were identified during shovel test unit excavation. OAI#33JA0409 is a multicomponent scatter identified during subsurface testing methods. The historic-period artifacts identitied included a Point Pleasant pipe stem fragment (c. 1830-1890). None of the sites are recommended as eligible for listing in the National Register of Historic Places (NRHP). Based on the information provided, we agree the archaeological sites are not eligible for listing in the NRHP and no further archaeological work is necessary.

The following comments pertain to the History/Architecture Investigations for the Proposed 6.4 km (4.0 mi) Heppner-Rhodes 69kV/138kV Rebuild Project in Lick and Coal Townships, Jackson County, Ohio by Weller & Associates, Inc. (2017).

The investigations consisted of a systematic survey of all properties fifty years of age of older that are situated within 1,000' on either side of the proposed project site. In total, three individual properties of fifty years or age or older were identified within the survey APE that may have a direct line-of-sight to the project.

It is Weller's recommendation that none of these properties are eligible for inclusion in the National Register of Historic Places due to alterations, additions, and a loss of historic integrity. Our office agrees with Weller's recommendations regarding eligibility.

RPR Serial No: 1070648, 1070649

Mr. Ryan J. Weller Page 2 October 23, 2017

The results of the architectural investigation identified no historic properties located within the APE that exhibit potential significance for inclusion in the National Register of Historic Places. Therefore, we agree that the project as proposed will have no effect on historic properties.

Based on the information provided, we agree the project will not affect historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted.

If you have any questions, please contact me at (614) 298-2022, or by e-mail at <a href="mailto:khorrocks@ohiohistory.org">khorrocks@ohiohistory.org</a>. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager

Resource Protection and Review

cc: Ron Howard, AEP (rmhoward@aep.com)



In reply refer to 2017-JAC-39798

May 24, 2018

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

RE: Heppner-Lick 69kV/138kV Electric Line Project Access Road Routes and Expanded/Altered Pull Areas – Additional Addendum, Coal, Milton, and Lick Townships, Jackson County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on May 18, 2018 regarding the proposed Heppner-Lick 69kV/138kV Electric Line Project Access Road Routes and Expanded/Altered Pull Areas – Additional Addendum, Coal, Milton, and Lick Townships, Jackson County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-4). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the Additional Addendum: Phase I Cultural Resource Investigations for Access Road Routes and Expanded/Altered Pull Areas for the Heppner-Lick 69kV/138kV Electric Line Project in Coal, Milton, and Lick Townships, Jackson County, Ohio by Weller & Associates, Inc. (2018).

A literature review, visual inspection, and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area. No new archaeological sites were identified during this survey. The recommendations made in our previous coordination letters, dated September 8, 2017 and December 19, 2017, remain. Based on the information provided, we still agree no additional archaeological survey is needed. No above-ground resources over the age of fifty years old were identified in the additional addendum. Therefore, we continue to agree that the project as proposed will have no indirect adverse effect on historic properties.

Based on the information provided, we agree with our original determination that the project will have no adverse effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during the implementation of this project. In such a situation, this office should be contacted.

If you have any questions, please contact me at (614) 298-2022, or by e-mail at <a href="mailto:khorrocks@ohiohistory.org">khorrocks@ohiohistory.org</a>. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager

Resource Protection and Review

cc: Ron Howard, AEP (rmhoward@aep.com)

RPR Serial No: 1074073

Appendix D Ecological Survey Report May 2018

# Appendix D Ecological Survey Report



# **Ecological Survey Report**

AEP Ohio Transmission Company Heppner – Rhodes 138kV Line Rebuild Project Jackson County, Ohio

GAI Project Number: C170352.06, Task 001

October 2017



# **Ecological Survey Report**

# AEP Ohio Transmission Company Heppner – Rhodes 138kV Line Rebuild Project Jackson County, Ohio

GAI Project Number: C170352.06, Task 001

October 2017

Prepared for:
American Electric Power Service Corporation
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## 1.0 Introduction

GAI Consultants, Inc. (GAI), on behalf of American Electric Power Ohio Transmission Company (AEP), completed an ecological survey for the Heppner – Rhodes 138kV Line Rebuild Project (Project) located in Jackson County, Ohio (OH). The Project involves rebuilding approximately 4.6-miles of the existing 69 kilovolt (kV) transmission line to a 138kV transmission line.

Ecological surveys were completed on July 17-19, 2017. The study area consisted of a 200-foot-wide corridor centered along the existing transmission line, as shown on Figure 1.

The Project study area is located within the Horse Creek-Little Salt Creek (United States Geological Survey [USGS] Hydrologic Unit Code [HUC] #050600020803), Dickason Run (HUC #050901010402), and Headwaters Little Raccoon Creek (HUC #050901010401) watersheds.

This report details the results of the ecological surveys regarding the existence of aquatic resources within the Project area (Figure 2). The United States Army Corps of Engineers (USACE) Wetland Determination Data Forms are provided in Appendix B. Ohio Environmental Protection Agency (OEPA) Primary Headwater Habitat Evaluation (HHEI) Data Forms are provided in Appendix C and Ohio Rapid Assessment Method for Wetlands (ORAM) Data Forms are provided in Appendix D.

## 2.0 Methods

#### 2.1 Wetlands

The 1987 USACE *Corps of Engineers Wetlands Delineation Manual* (Wetlands Delineation Manual) (USACE, 1987) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0* (Regional Supplement) (USACE, 2012) describe the methods used to identify and delineate wetlands that fall under the jurisdiction of the USACE. This approach recognizes the three parameters of wetland hydrology, hydrophytic vegetation, and hydric soils to identify and delineate wetland boundaries. In accordance with the Wetlands Delineation Manual and Regional Supplement, GAI completed preliminary data gathering and onsite inspections.

#### 2.1.1 Preliminary Data Gathering

The preliminary data gathering was used to compile and review information that may be helpful in identifying wetlands and/or areas that warrant further inspection during the investigation. The preliminary data gathering included a review of the following:

- ▶ USGS 7.5-minute topographic mapping for Jackson (USGS, 1978) and Wellston (USGS, 1977), OH (Figure 1);
- United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) mapping (USFWS, 2015) (Figure 2);
- ► Federal Emergency Management Agency (FEMA), National Flood Hazard Layer (FEMA, 2015) (Figure 2); and
- ▶ United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS, 2015) soil mapping (Figure 2).

Topographic mapping was used to identify mapped streams and the overall shape of the landscape in the Project area to determine potential locations for wetlands, such as floodplains and depressions. NWI mapping was used to determine locations where probable wetlands are located based on infrared photography. Soil mapping was reviewed to determine the location and extent of mapped hydric soils that have a high probability of containing wetlands.



## 2.1.2 Onsite Inspection

The methodology described in the Regional Supplement identifies areas meeting the definition of a wetland by evaluating three parameters: hydrology, vegetation, and soil. During the onsite inspection, GAI staff traversed the Project study area on foot to determine if any indicators of wetlands were present. When indicators of wetlands were observed, an observation point was established, and a Wetland Determination Data Form (Data Form) was completed to determine if all three wetland indicators were present.

The presence of wetland hydrology was determined by examining the observation point for primary and secondary indicators of wetland hydrology. The presence of any primary indicator signified the presence of wetland hydrology, or the presence of two or more secondary indicators signified the presence of wetland hydrology.

Vegetation was characterized by four different strata. This included trees (woody plants, excluding vines, three inches or more in diameter at breast height [DBH]), saplings/shrubs (woody plants, excluding vines, less than three inches DBH and greater than or equal to 3.28 feet tall), herbs (non-woody plants, regardless of size, and all other plants less than 3.28 feet tall), and woody vines (greater than 3.28 feet tall). In general, trees and woody vines were sampled within a thirty-foot (30') radius, saplings and shrubs were sampled within a fifteen-foot (15') radius, and herbs were sampled within a five-foot (5') radius.

When evaluating an area for the presence of hydrophytes, classification of the indicator status of vegetation was based on *The National Wetland Plant List: 2016 Update of Wetland Ratings* (Lichvar et al., 2016). The list of possible indicator statuses for plants is as follows:

- Obligate Wetland (OBL) Obligate Wetland plants occur in standing water or in saturated soils;
- Facultative Wetland (FACW) Facultative Wetland plants nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may on rare occasions, occur in non-wetlands;
- ► Facultative (FAC) Facultative plants occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but often occur in standing water or saturated soils:
- ► Facultative Upland (FACU) Facultative Upland plants typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils; and
- Obligate Upland (UPL) Obligate Upland plants almost never occur in water or saturated soils.

Presence of hydrophytic vegetation was determined by using a Rapid Test, Dominance Test or Prevalence Index (USACE, 2010). The Rapid Test finds a vegetation community to be hydrophytic if all dominant species are OBL or FACW. Hydrophytic vegetation was considered present based on the Dominance Test if more than 50 percent of dominant species are OBL, FACW, or FAC. The Prevalence Index weighs the total percent of vegetation cover based on the indicator status of each plant. Hydrophytic vegetation was considered present when the Prevalence Index is less than or equal to 3.0.

To determine the presence of hydric soils, soil data was collected by digging a minimum 16-inch soil pit. The soil profile was studied and described, while possible hydric indicators were examined. Soil indicators described in the Wetlands Delineation Manual and Regional Supplement were used to determine the presence of hydric soils. The presence of any of these indicators signified a hydric soil.



If all three parameters including wetland hydrology, a dominance of hydrophytic vegetation, and hydric soils were identified at a single observation point, the area was determined to be a wetland. Once a wetland was identified, the boundary was delineated.

Wetland boundaries were determined by looking for locations in which one of the three wetland indicators would transition into an upland characteristic. When the transition was identified, a Data Form was completed in the Upland Area. Wetland boundaries were then marked in the field using pink flagging labeled "WETLAND DELINEATION." The locations of the flags were recorded using a Global Positioning System (GPS) unit. Each wetland was codified with a unique identifier indicating the feature type and number (e.g., W001).

Wetlands were then classified using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979) as modified for NWI Mapping Convention. This system classifies wetlands based on topographic position and vegetation type. Palustrine system wetlands found within the study area are classified as Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), Palustrine Forested (PFO), or Palustrine Unconsolidated Bottom (PUB) based on aerial coverage of the vegetative community across the extent of the wetland boundary (Cowardin et al., 1979).

## 2.2 Waterbodies

As with wetlands, Section 404 of the Clean Water Act (CWA) and state regulations protect waterbodies in OH. Generally, waterbodies are defined as environmental features that have defined beds and banks, ordinary high water mark (OHWM), and contain flowing or standing water for at least a portion of the year.

## 2.2.1 Preliminary Data Gathering

During the preliminary data gathering, the USGS 7.5-minute topographic mapping was examined for the presence of mapped waterbodies including perennial and intermittent streams. In addition, the topographic mapping was used to identify areas likely to contain unmapped waterbodies including ephemeral streams (USGS, 1977 and 1978) (Figure 1).

The OEPA Stream Eligibility Web Map was used to determine eligibility coverage under the 401 Water Quality Certification (WQC) for the 2017 Nationwide Permits (NWPs). Furthermore, the map was used to identify any ineligible areas that may require a CWA Section 401 individual permit from the OEPA should stream impacts occur within the Project area (OEPA, 2017) (Figure 3).

## 2.2.2 Onsite Inspection

During the onsite inspection, GAI staff traversed the study area, concurrently with the wetland inspection, and waterbodies were identified. Waterbodies were identified based on the morphological and hydrologic characteristics of the channel and the presence of aquatic macroinvertebrates.

When a waterbody was identified, field measurements were collected. The measurements included top of bank width, top of bank depth, pool depth, water depth, OHWM width, and OHWM depth. A detailed description of substrate composition was also recorded. Waterbodies were then delineated using white flagging marked with the GAI stream code (e.g., S001). The tops-of-bank for streams wider than 10 feet were delineated and the centerline of smaller streams were delineated. The locations of the flags were recorded using a sub-meter capable hand-held GPS unit.



## 2.3 Rare, Threatened, and Endangered Species

GAI conducted a literature review of potential Rare, Threatened, and Endangered (RTE) species in the vicinity of the Project study area. Potential habitat for RTE species as a result of the literature review was noted during the ecological survey.

## 2.3.1 Preliminary Data Gathering

A request for review of the Ohio Natural Heritage Database (ONHD) was submitted to the Ohio Department of Natural Resources (ODNR) to determine if any state-listed threatened or endangered species occur within a one-mile radius of the Project area. A request was also submitted to the USFWS Ohio Ecological Services Field Office to determine if any federally-listed threatened or endangered species occur within the vicinity of the Project area.

## 2.3.2 Onsite Inspection

During the onsite inspection, GAI staff traversed the study area in conjunction with the wetland and waterbody inspections to determine if suitable habitat for state- and/or federally-listed RTE species are present within the study area.

## 3.0 Results

## 3.1 Wetlands

## 3.1.1 Preliminary Data Gathering

Desktop review of available USFWS NWI digital data for the Project revealed two NWI mapped wetlands located within the Project study area. One NWI wetland is classified as Palustrine Scrub-Shrub, Broad-Leaved Deciduous/Emergent, Persistent, Seasonally Flooded (PSS1/EM1C) and corresponds with W004 and W005. The other NWI wetland is classified as Palustrine Unconsolidated Bottom, Intermittently Exposed, Excavated (PUBGx) and corresponds with W001 (USFWS, 2015).

According to the USDA-NRCS soil mapping, a total of 15 soil map units are located within the Project study area (Figure 2). One of the soil map units is classified as hydric (Piopolis silt loam [Pio1AF]) and one is known to contain hydric inclusions (Orrville silt loam [Or]).

### 3.1.2 Onsite Inspection

Ten wetlands were identified and delineated within the Project study area, including eight PEM wetlands and two PUB wetlands. In order to document site conditions, USACE Data Forms were completed for each wetland and upland reference. Information on the delineated wetlands can be found in Table 1 and photographs of the wetlands are included in Appendix A.

#### 3.1.3 Regulatory Discussion

The USACE guidance divides waterbodies into three groups: Traditionally Navigable Waters (TNWs), non-navigable Relatively Permanent Waters (RPWs), and non-navigable Non-RPWs. TNWs are waterbodies which have been, are, or may be susceptible to use in interstate commerce, including recreational use of the waterbody. RPWs are waterbodies that flow year round, or at a minimum seasonally, by exhibiting continuous flow for at least three consecutive months, but are not TNWs (USACE, 2007). Non-RPWs are waterbodies that do not flow continuously for at least three consecutive months, are not TNWs or RPWs, but typically exhibit characteristic beds, banks, and OHWM (USACE, 2007).

The status of wetlands is determined partly based on the classification of the waterbody that the wetland is associated with, and the degree of that association. Wetlands that abut or are



adjacent to TNWs are jurisdictional. Wetlands that abut RPWs are jurisdictional. Wetlands that are adjacent to RPWs and wetlands that abut or are adjacent to Non-RPWs must be subjected to the Significant Nexus Test (SNT) to determine their jurisdictional status. Generally, the USACE considers wetlands that are isolated, meaning that they are not associated with any other surface water feature, as non-jurisdictional; and wetlands that abut or are adjacent to Non-RPWs as needing further examination by the USACE to determine and verify whether they exhibit a significant nexus to waters of the United States. If these wetlands exhibit a significant nexus, they are jurisdictional; if not, they are not subject to USACE jurisdiction.

Wetlands that do not exhibit an association with any surface water are categorized as "isolated" under present USACE guidance and policy. These wetlands are regulated by the OEPA Division of Surface Water, and may require an Isolated Wetland Permit.

As regulated by Ohio Administrative Code (OAC) rules 3745-1-50 through 3745-1-54, wetlands were also evaluated using the ORAM to determine the appropriate wetland category. Any wetland score that fell within a gray zone between categories was scored one of two ways. Either the wetland was assigned to the higher of the two categories or it was assessed using a non-rapid method to determine its quality (Mack, 2001). The category assigned to a particular wetland determines the requirement, if any, for additional levels of protection administered by the OEPA.

All wetlands within the study area were identified as jurisdictional. Jurisdictional status is the opinion of GAI and must be confirmed by USACE and state agencies through the Jurisdictional Determination (JD) process.

## 3.2 Waterbodies

## 3.2.1 Preliminary Data Gathering

Desktop review of the available USGS topographic mapping revealed three previously mapped stream segments located within the Project study area (Figure 1). Desktop review of OEPA's Stream Eligibility Web Map revealed the Project is located within eligible and possibly eligible areas for automatic 401 WQC coverage (Figure 3).

## 3.2.2 Onsite Inspection

Sixteen stream segments were identified and delineated within the Project study area. Six stream segments were classified as having a perennial flow regime, four were classified as intermittent, and six were classified as ephemeral. Information on the delineated waterbodies and their classifications can be found in Table 2, and photographs of the identified streams are included in Appendix A.

## 3.2.3 Regulatory Discussion

As with wetlands, present USACE guidance and policy determines the jurisdictional status of waterbodies identified during the Project. TNWs and RPWs are jurisdictional. Non-RPWs must be subjected to the SNT by USACE to determine their jurisdictional status. If Non-RPWs exhibit a Significant Nexus, as defined in USACE guidance documents, they are jurisdictional. If not, they do not fall under the jurisdiction of the USACE.

Streams are generally defined as environmental features that have defined beds and banks, an OHWM as defined in Regulatory Guidance Letter No. 05-05 (USACE, 2005), and contain flowing or standing waters for at least a portion of the year. Streams were classified as perennial, intermittent, or ephemeral based upon presence of flow, estimated duration of flow, stream bed characteristics, and presence of aquatic biota. The USACE *Jurisdictional* 



*Determination Form Instructional Guidebook* (USACE, 2007) was used to determine stream classification and flow status.

As regulated by OAC Chapter 3745-1-13 and Section 401 WQC, streams were also assessed according to OEPA guidance using either the HHEI for watersheds less than one square mile in size, or the Qualitative Habitat Evaluation Index (QHEI) for watersheds between one and 20 square miles in size.

One stream segment (S002) located within the Project study area was identified as Horse Creek, which is designated as a Warmwater Habitat (WWH) stream by OAC Chapter 3745-1-09. Two stream segments (S008 and S013) were identified as Sugar Run, which is designated as a WWH stream by OAC Chapter 3745-1-09. All other stream segments located within the Project study area were identified as Unnamed Tributaries (UNTs) to Horse Creek, Sugar Run, Dickason Run, and Meadow Run.

Fifteen stream segments (S001 thru S014 and S016) are located within a possibly eligible area for coverage under the 401 WQC for NWPs. One stream segment (S015) is located within an eligible area for coverage.

## 3.3 Rare, Threatened, and Endangered Species

## 3.3.1 Preliminary Data Gathering

Desktop review of ODNR, Division of Wildlife's Ohio's Listed Species revealed 321 Endangered, Threatened, Species of Concern, and Species of Interest located in OH (ODNR, 2016). Seventeen of the state-listed species are considered federally Endangered, and four are federally Threatened.

A review of the USFWS *County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species for Ohio* as well as the USFWS Information for Planning and Consultation (IPaC) website revealed three federally endangered or threatened species that may occur within the Project study area (USFWS, 2017). The list of species includes the following:

- ▶ Indiana bat (*Myotis sodalis*) Endangered;
- Northern long-eared bat (*Myotis septentrionalis*) Threatened; and
- Running buffalo clover (*Trifolium stoloniferum*) Endangered.

In addition to the species listed above, there are nine species of migratory birds that may occur within the Project study area.

## 3.3.2 Onsite Inspection

Potential habitat for RTE species was evaluated within the Project study area. In general, the habitat encountered within the study area consisted of cleared transmission line right-of-way, PEM and PUB wetlands, successional mixed deciduous forest, agricultural fields (fallow, pasture), and residential properties. Six perennial, four intermittent, and six ephemeral streams were also identified within the Project study area. Representative photographs of the identified habitat types are included in Appendix A.

### 3.3.3 Regulatory Discussion

State-listed RTE species fall under the jurisdiction of the ODNR, Division of Wildlife, while federally-listed species are covered under Section 7 of the Endangered Species Act. The Bald and Golden Eagle Protection Act and Migratory Bird Act aim to extend protection to certain bird species that fall under the jurisdiction of the USFWS. Based on the desktop review and on-site



inspection, informal consultation with the ODNR and USFWS has been initiated to determine if any activities associated with the proposed Project may affect state- and/or federally-listed RTE species. The ODNR and USFWS consultation letters were submitted on May 12, 2017, and are provided in Appendix E. A response from the USFWS was received on June 2, 2017, and is also provided in Appendix E. The ODNR response will be appended when received.

## 4.0 Conclusions

Ecological surveys were conducted within the Project study area on July 17-19, 2017. Eight PEM wetlands and two PUB wetlands were identified within the Project study area. Sixteen stream segments (six perennial, four intermittent, and six ephemeral) were also identified within the Project study area. Summaries of the delineated aquatic features are provided in Tables 1 and 2, and a map of their locations is depicted on Figure 2. Photographs of the wetland and stream features are included in Appendix A. Wetland Determination Data Forms documenting the investigation are provided in Appendix B, with HHEI and ORAM Data Forms provided in Appendix C and D, respectively.

The jurisdictional status of these features are considered preliminary and should be confirmed with the USACE and state agencies through the JD process.



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United States Geological Survey. 1978. Jackson, Ohio 7.5-Minute Topographic Quadrangle (1:24,000).



## **TABLES**



Table 1 Wetlands I dentified Within the Project Study Area

wetianus ruentineu within the Project Study Area									
Wetland I.D. <sup>1</sup>	Latitude <sup>2</sup>	Longitude <sup>2</sup>	Proximal Waterbody	USACE Classification <sup>3</sup>	Cowardin Classification⁴	Size⁵ (acres)	ORAM v. 5.0 Score <sup>6</sup>	ORAM Category <sup>7</sup>	Figure 2 (sheet)
W001-PEM-CATMOD2	39.084131	-82.623131	UNT to Horse Creek	Jurisdictional; Adjacent	PEM	0.077	35.5	Modified 2	2
W002-PEM-CATMOD2	39.084342	-82.622316	UNT to Horse Creek	Jurisdictional; Abutting	PEM	1.152	40.5	Modified 2	2
W003-PEM-CAT2	39.084013	-82.621145	UNT to Horse Creek	Jurisdictional; Abutting	PEM	0.027	30	2	2
W004-PUB-CAT2	39.084462	-82.620935	Horse Creek	Jurisdictional; Adjacent	PUB	0.045	50	2	2
W005-PEM-CAT2	39.084304	-82.621049	Horse Creek	Jurisdictional; Abutting	PEM	0.030	34.5	2	2
W006-PEM-CATMOD2	39.084129	-82.620396	Horse Creek	Jurisdictional; Abutting	PEM	0.141	40.5	Modified 2	2
W007-PUB-CAT2	39.080756	-82.584114	UNT to Sugar Run	Jurisdictional; Adjacent	PUB	0.071	34	2	5
W008-PEM-CAT1	39.081021	-82.584057	UNT to Sugar Run	Jurisdictional; Abutting	PEM	0.102	21	1	5
W009-PEM-CATMOD2	39.080018	-82.564669	UNT to Dickason Run	Jurisdictional; Adjacent	PEM	0.011	37.5	Modified 2	7
W010-PEM-CATMOD2	39.080620	-82.550611	UNT to Meadow Run	Jurisdictional; Adjacent	PEM	0.202	41	Modified 2	9

#### Notes:

- GAI map designation.
- North American Datum, 1983.
- <sup>3</sup> Jurisdictional status is the opinion of GAI and must be confirmed by USACE and state agencies through the JD process.
- PEM Palustrine Emergent; PUB Palustrine Unconsolidated Bottom.

gai consultants
Iransforming ideas into reality,

- Total acreage of wetland located within the Project study area.
- Interim scoring breakpoints for wetland regulatory categories for ORAM v 5.0 Score: Category 1 score 0 29.9; Category 1 or 2 gray zone ORAM score 30 34.9; Category modified 2 ORAM score 35 44.9; Category 2 ORAM score 45 59.9; Category 2 or 3 ORAM score 60 64.9; Category 3 ORAM score 65 100. OEPA Ecology Unit Division of Surface Water. ORAM v. 5.0 Qualitative Score Calibration. Dated August 15, 2000. http://www.epa.ohio.gov/portals/35/401/oram50sc\_s.pdf.
- OAC Rule 3745-1-54(C) (2) defines Category 1 wetlands as wetlands which "...support minimal wildlife habitat, and minimal hydrological and recreation functions," and as wetlands which have "..hydrologic isolation, low species diversity, a predominance of non-native species, no significant habitat or wildlife use, and limited potential to achieve beneficial wetland functions." Category 2 wetlands are defined as wetlands which "...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." Degraded but Restorable Category 2 Wetlands are according to OAC Rule 3745-1-54(C) states that wetlands that are assigned to Category 2 constitute the broad middle category that "...support moderate wildlife habitat, or hydrological or recreational functions," but also include "...wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." OAC Rule 3745-1-54(C) (2) defines Category 3 wetlands as wetlands which "...support superior habitat, or hydrological or recreational functions," and as wetlands which have "...high levels of diversity, a high proportion of native species, or high functional values."



## Table 2 Waterbodies Identified Within the Project Study Area

	waterboules tuentined within the Project Study Area														
Stream I.D. <sup>1</sup>	Waterbody Name	OEPA WQ Designation <sup>2</sup>	OEPA Stream Eligibility <sup>3</sup>	Stream Type	USACE Classification <sup>4</sup>	HHEI Score <sup>5</sup>	PHWH Class <sup>5</sup>	QHEI Score <sup>6</sup>	Bank Width <sup>7</sup> (feet)	OHWM Width (feet)	OHWM Depth (inches)	Stream Length <sup>8</sup> (feet)	Latitude <sup>9</sup>	Longitude <sup>9</sup>	Figure 2 (sheet)
S001	UNT to Horse Creek	-	Possibly Eligible	Perennial	RPW	35	Class II	-	2	1.5	6	674	39.084471	-82.622058	2
S002	Horse Creek	WWH	Possibly Eligible	Perennial	RPW	-	-	-	15	10	24	233	39.084222	-82.620882	2
S003	UNT to Horse Creek	-	Possibly Eligible	Ephemeral	NRPW	25	Class I	-	3	1.5	6	246	39.083316	-82.604563	3
S004	UNT to Sugar Run	-	Possibly Eligible	Intermittent	RPW	53	Class II	-	6	4.5	12	389	39.083311	-82.600450	4
S005	UNT to Sugar Run	-	Possibly Eligible	Intermittent	RPW	36	Class II	-	4	1	6	137	39.083355	-82.600390	4
S006	UNT to Sugar Run	-	Possibly Eligible	Ephemeral	NRPW	32	Class II	-	4	2	6	54	39.082946	-82.598937	4
S007	UNT to Sugar Run	-	Possibly Eligible	Perennial	RPW	62	Class II	-	5	4	12	295	39.081770	-82.591587	5
S008	Sugar Run	WWH	Possibly Eligible	Perennial	RPW	-	-	-	9	7	12	593	39.081693	-82.590576	5
S009	UNT to Sugar Run	-	Possibly Eligible	Ephemeral	NRPW	20	Class I	-	2	1	3	36	39.081609	-82.588623	5
S010	UNT to Sugar Run	-	Possibly Eligible	Perennial	RPW	52	Class II	-	5	3	12	258	39.081184	-82.586919	5
S011	UNT to Sugar Run	-	Possibly Eligible	Intermittent	RPW	34	Class II	-	2	1.5	6	252	39.081039	-82.584161	5
S012	UNT to Sugar Run	-	Possibly Eligible	Intermittent	RPW	39	Class II	-	2	1	4	188	39.080883	-82.581156	6
S013	Sugar Run	WWH	Possibly Eligible	Perennial	RPW	-	-	-	9	7	6	1,869	39.080808	-82.579107	6
S014	UNT to Sugar Run	-	Possibly Eligible	Ephemeral	NRPW	16	Class I	-	2	2	4	306	39.080390	-82.568980	7
S015	UNT to Dickason Run	-	Eligible	Ephemeral	NRPW	22	Class I	-	3	1	6	218	39.080041	-82.562660	7,8
S016	UNT to Meadow Run	-	Possibly Eligible	Ephemeral	NRPW	24	Class I	-	2	1	4	911	39.081751	-82.549501	9

#### Notes:

- GAI map designation
- GAI map designation.

  As defined by OAC Chapter 3745-1 Water Quality Standards, Water use designations and statewide criteria (OAC 3745-1-09), http://www.epa.chio.gov/dsw/rules/3745\_1 aspx.

  As defined by CAC Chapter 3745-1 Water Quality Standards, Water use designations and statewide criteria (OAC 3745-1-09), http://www.epa.chio.gov/dsw/rules/3745\_1 aspx.

  As defined by CAC Chapter 3745-1 Water Quality Standards, Water use designations and statewide criteria (OAC 3745-1-09), http://www.epa.chio.gov/dsw/rules/3745\_1 aspx.

  As defined by CAC Chapter 3745-1 Water Quality Standards, water legible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephemeral. Streams located in Possibly Eligible areas are eligible for coverage if the pH is <6.5 or stream flow is ephe



Table 3

ODNR and USFWS RTE Species and Critical Habitat Review Results<sup>1</sup>

Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Amphibians						
Midland mud salamander	Pseudotriton montanus diastictus	Springs, seeps and creeks under large, flat stones	Т	No	No; Known habitat types are not present within the Project area	-
Bats						
Indiana bat	Myotis sodalis	Trees >3" dbh	E, FE	Yes	No; Avoided with winter tree clearing	April 1 to September 30
Northern long-eared bat	Myotis septentrionalis	Roost in cavities or in crevices of both live trees and snags; Hibernate in caves and mines with constant temperatures, high humidity, and no air currents	FT	Yes	No; Avoided with winter tree clearing	April 1 to September 30
Fish						
Ohio lamprey	Ichthyomyzon bdellium	The Ohio River and the lower portion of its tributaries.	E	No	No; Known habitat types are not present within the Project area	-
Lake chubsucker	Erimyzon sucetta	Natural lakes and very sluggish streams or marshes with dense aquatic vegetation and clear waters	Т	No	No; Known habitat types are not present within the Project area	-
Insects						
Regal fritillary	Speyeria idalia	Tall-grass and mixed-grass prairies	E	No	No; Known habitat types are not present within the Project area	-
Mammals						
Black bear	Ursus americanus	Large forested areas	E	Yes	No; Impacts are unlikely due to the migratory nature of this species	-
Allegheny woodrat	Neotoma magister	Rocky areas associated with mountain ridges such as cliffs, caves, and rocky fissures	E	No	No; Known habitat types are not present within the Project area	-



Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Mammals (Cont.)						
Bobcat	Lynx rufus	Varies; Generally solitary, territorial, and elusive	Т	No	No; Impacts are not anticipated due to the Project location	
Mussels						
Elephant-ear	Elliptio crassidens crassidens	Large rivers in mud, sand, or fine gravel	Е	No	No; Known habitat types are not present within the Project area	-
Sharp-ridged pocketbook	Lampsilis ovata	Large rivers in coarse sand or gravel	Е	No	No; Known habitat types are not present within the Project area	-
Little spectaclecase	Villosa lienosa	Small to medium streams in sand or gravel	E	Yes	No; In-stream work is not proposed	-
Black sandshell	Ligumia recta	Medium to large rivers in riffles or raceways in gravel or firm sand	Т	No	No; Known habitat types are not present within the Project area	-
Fawnsfoot	Truncilla donaciformis	Large rivers or the lower reaches of medium-sized streams in sand or gravel	Т	No	No; Known habitat types are not present within the Project area	-
Pondhorn	Uniomerus tetralasmus	Ponds, small creeks, and the headwaters of larger streams in mud or sand	Т	No	No; Known habitat types are not present within the Project area	-
Plants						
Small white snakeroot	Ageratina aromatic	A variety of well-drained open areas on acidic soils	Е	No	No; Known habitat types are not present within the Project area	-
Louisiana sedge	Carex Iouisianica	Swamp woods and shaded alluvial situations	E	No	No; Known habitat types are not present within the Project area	-
Willdenow's croton	Croton willdenowii	Barren stony or sandy clearings	E	No	No; Known habitat types are not present within the Project area	-
Sessile dodder	Cuscuta compacta	Low woods and thickets	Е	No	No; Known habitat types are not present within the Project area	-



Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Plants (Cont.)						
Many-flowered umbrella sedge	Cyperus lancastriensis	A variety of open, dry situations, usually in sandy soils; Fields, barrens, clearings, and open woods	E	No	No; Known habitat types are not present within the Project area	-
Rough umbrella-sedge	Cyperus retrofractus	A variety of open, dry situations, usually in sandy soil; Fields, open woods, clearings, and barrens	E	No	No; Known habitat types are not present within the Project area	-
Velvet panic grass	Dichanthelium scoparium	Seepage meadows	E	No	No; Known habitat types are not present within the Project area	-
Engelmann's spike rush	Eleocharis engelmannii	Mudflats along margins of ponds and lakes	Е	No	No; Known habitat types are not present within the Project area	-
Wolf's spike-rush	Eleocharis wolfii	Moist, open areas; Pond margins; Fields	E	No	No; Known habitat types are not present within the Project area	-
Hyssop thoroughwort	Eupatorium hyssopifolium	A variety of well-drained, open areas on acidic soils	E	No	No; Known habitat types are not present within the Project area	-
Sampson's snakeroot	Gentiana villosa	Mesic woodlands, pinelands, dry ravines, and roadsides	E	No	No; Known habitat types are not present within the Project area	-
Coppery St. John's-wort	Hypericum denticulatum	Usually wet, shaded to open situations; Low woods, bogs, and marshes	E	No	No; Known habitat types are not present within the Project area	-
Appalachian quillwort	Isoetes engelmannii	Open sun in shallow bodies of water; Pond margins and ditches	E	No	No; Known habitat types are not present within the Project area	-
Woodland rush	Juncus subcaudatus	Marshes, edges of streams, and peaty acidic and basic wetlands including fens; Wide variety of wet habitats	E	No	No; Known habitat types are not present within the Project area	-
One-coned club-moss	Lycopodium lagopus	Openings in woodlands and fields	Е	No	No; Known habitat types are not present within the Project area	-
Bigleaf magnolia	Magnolia macrophylla	Mesic wooded ravines and near the tops of these ravines in oak woods	E	No	No; Known habitat types are not present within the Project area	-



Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Plants (Cont.)						
Curtiss' milkwort	Polygala curtissii	Open to semi-open situations in dry to moist, rocky to sandy soil; Wood borders, old fields, and thickets	E	No	No; Known habitat types are not present within the Project area	-
Spotted pondweed	Potamogeton pulcher	Peaty or muddy, acid waters or shores	E	No	No; Known habitat types are not present within the Project area	-
Flame azalea	Rhododendron calendulaceum	Open woods and cleared areas on well-drained, acidic soils	E	No	No; Known habitat types are not present within the Project area	-
Narrow-leaved bluecurls	Trichostema dichotomum var. lineare	Dry upland or sandy woods; Old fields	Е	No	No; Known habitat types are not present within the Project area	-
Running buffalo clover	Trifolium stoloniferum	Mesic habitats with partial sunlight including woodlands and mowed lawns	E, FE	No	No; Known habitat types are not present within the Project area	-
Primrose-leaved violet	Viola primulifolia	Moist, open situations, usually in sandy soil; Meadows, edges of ponds, streams, marshes, and swamps	E	No	No; Known habitat types are not present within the Project area	-
Bluehearts	Buchnera americana	Full sun in well-drained, often rocky, openings and woodlands; prairies, pastures, roadbanks; at times on severely eroded slopes	Т	No	No; Known habitat types are not present within the Project area	-
Bartley's Reed Grass	Calamagrostis porteri ssp. insperata	Dry upland areas in sun or partial shade; <i>Jackson County</i> population is under a powerline	Т	Yes	Unknown	-
Bush's sedge	Carex bushii	Moist prairies, fields, and meadows in full sun	Т	No	No; Known habitat types are not present within the Project area	-
Flattened sedge	Carex companata	Dry, open woods with neutral to acidic soils	Т	No	No; Known habitat types are not present within the Project area	-
Short-fringed sedge	Carex crinita var. brevicrinis	Swamp woods, seeps in woods, and along streams	Т	No	No; Known habitat types are not present within the Project area	-



Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Plants (Cont.)						
Reznicek's sedge	Carex reznicekii	Dry woods on sandy soils	Т	No	No; Known habitat types are not present within the Project area	-
Lindheimer's panic grass	Dichanthelium lindheimeri	Open, moist, gravelly, often calcareous shores	Т	No	No; Known habitat types are not present within the Project area	-
Slender spike-rush	Eleocharis tenuis	Moist soils in xeric limestone prairies; Wet meadows, shores of ponds, ditches, and disturbed, moist habitats	Т	No	No; Known habitat types are not present within the Project area	-
White thoroughwort	Eupatorium album	A variety of well-drained, open areas on acidic soils	Т	No	No; Known habitat types are not present within the Project area	-
Round-fruited hedge-hyssop	Gratiola virginiana	Wet places: stream margins, pools, ditches, swamps; generally in shade or semi shade	Т	No	No; Known habitat types are not present within the Project area	
Ashy sunflower	Helianthus mollis	A variety of well-drained, sunny openings; Dry prairies, railroad embankments, roadsides, wood borders, and clearings; Usually in neutral substrates	Т	No	No; Known habitat types are not present within the Project area	-
Inland rush	Juncus interior	Moist to dry, open to semi-open situations; Often in sandy soil; Roadsides, prairies, meadows, fallow fields, clearings, and upland woods	Т	No	No; Known habitat types are not present within the Project area	•
Potato-dandelion	Krigia dandelion	Open oak woods and prairies, usually in moist sandy soils	Т	No	No; Known habitat types are not present within the Project area	-
Thyme-leaved pinweed	Lechea minor	Usually in full sun in dry, sandy woods, clearings, and roadside banks	Т	No	No; Known habitat types are not present within the Project area	-
Downy white beard-tongue	Penstemon pallidus	Fields, roadsides, and open woods	Т	No	No; Known habitat types are not present within the Project area	-



Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Plants (Cont.)						
Carolina leaf-flower	Phyllanthus caroliniensis	A variety of moist, open to semi- open situations, usually in sandy soil; Low woods, meadows, fields, and gravelly banks	Т	No	No; Known habitat types are not present within the Project area	-
Pink milkwort	Polygala incarnata	Open to semi-open situations in dry, often sandy soil; Open upland woods, wood borders, prairies, and old fields	Т	No	No; Known habitat types are not present within the Project area	-
Tennessee pondweed	Potamogeton tennesseensis	Still or flowing water	Т	No	No; Known habitat types are not present within the Project area	-
Spanish oak	Quercus falcata	Usually in dry upland woods, less frequently in alluvial woods	Т	No	No; Known habitat types are not present within the Project area	-
Chalky ramalina	Ramalina pollinaria	Rock and bark in sheltered areas; Recent Ohio collections have all been from sandstone, either cliff face or boulders below a cliff; Prefers light shade	Т	No	No; Known habitat types are not present within the Project area	-
Low spearwort	Ranunculus pusillus	Low wet ground, swamps, and shallow pools	Т	No	No; Known habitat types are not present within the Project area	-
Great rhododendron	Rhododendron maximum	Moist, cool, acidic, well-drained soils; Partial shade	Т	No	No; Known habitat types are not present within the Project area	-
Narrow-leaved aster	Sericocarpus linifolius	Dry, open to semi-open situations; Upland woods, thickets, and clearings	Т	No	No; Known habitat types are not present within the Project area	-
Sweet goldenrod	Solidago odora	Dry woods and roadsides	Т	No	No; Known habitat types are not present within the Project area	-
Prairie wedge grass	Sphenopholis obtusata var. obtusata	Very generalized; Moist to dry soil of open woods, prairies, old fields, and fen meadows	Т	No	No; Known habitat types are not present within the Project area	
Large marsh St. John's-wort	Triadenum tubulosum	Swamp woods, buttonbush swamps, thickets, and streambanks	Т	No	No; Known habitat types are not present within the Project area	-



Common Name	Scientific Name	Habitat Type	Listing Status <sup>2</sup>	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates
Plants (Cont.)						
Walter's St. John's-wort	Triadenum walteri	Swamp woods, buttonbush swamps, thickets, and streambanks	Т	No	No; Known habitat types are not present within the Project area	-
Reptiles						
Timber rattlesnake <sup>1</sup>	Crotalus horridus	Wooded areas	E, SC	Yes	No; Per the ODNR response, this Project is not likely to impact this species	-
Kirtland's snake <sup>1</sup>	Clonophis kirtlandii	Wet meadows or fields	Т	Yes	No; Per the ODNR response, this Project is not likely to impact this species	-

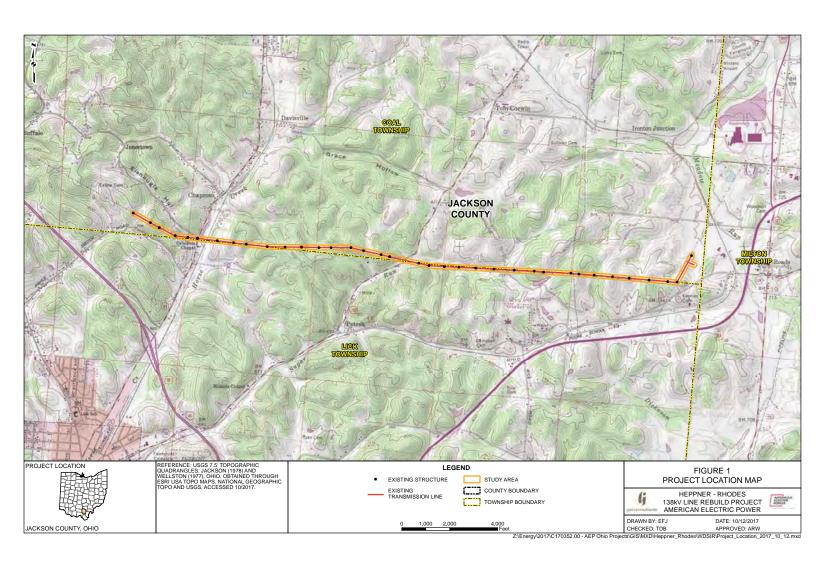
#### Notes:

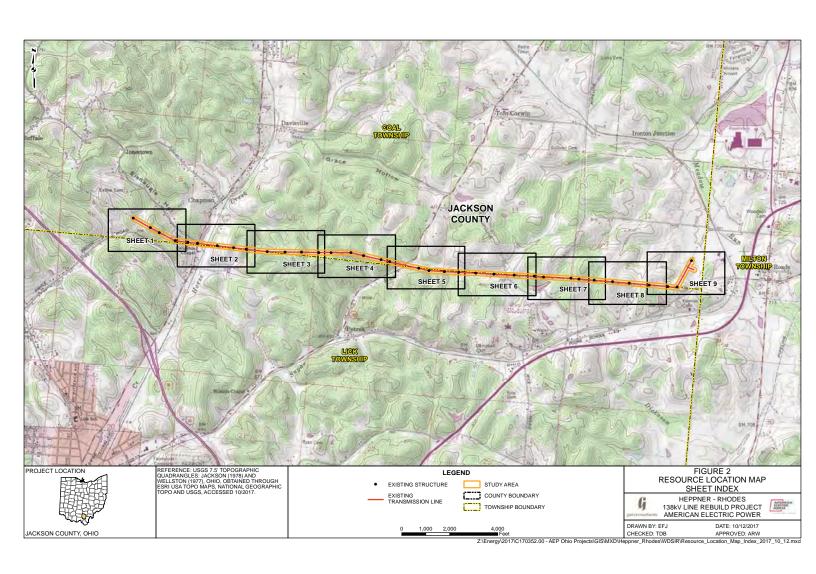
- 1 Results are tentatively based upon the State Listed Species list(s) for Jackson County and will be updated once the ODNR response is received.
- E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; FE = federal endangered; FT = federal threatened; FSC = federal species of concern; FC = federal candidate.

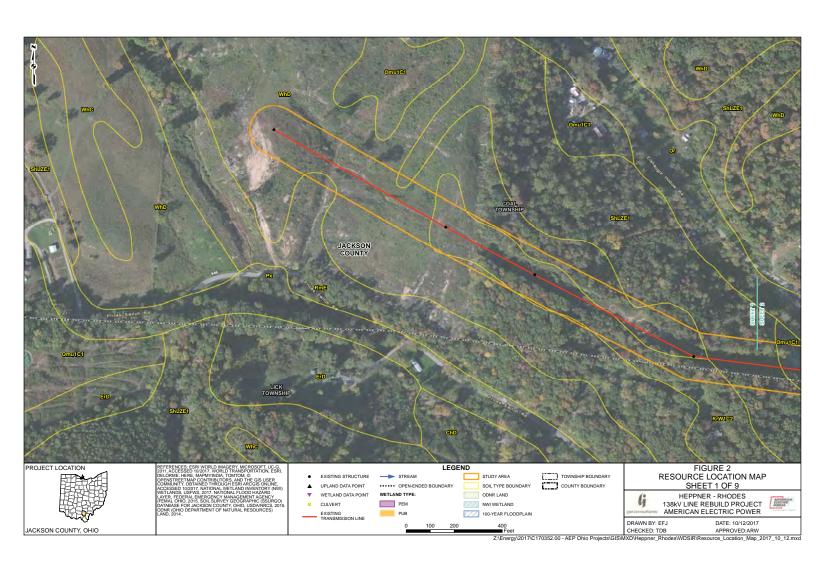


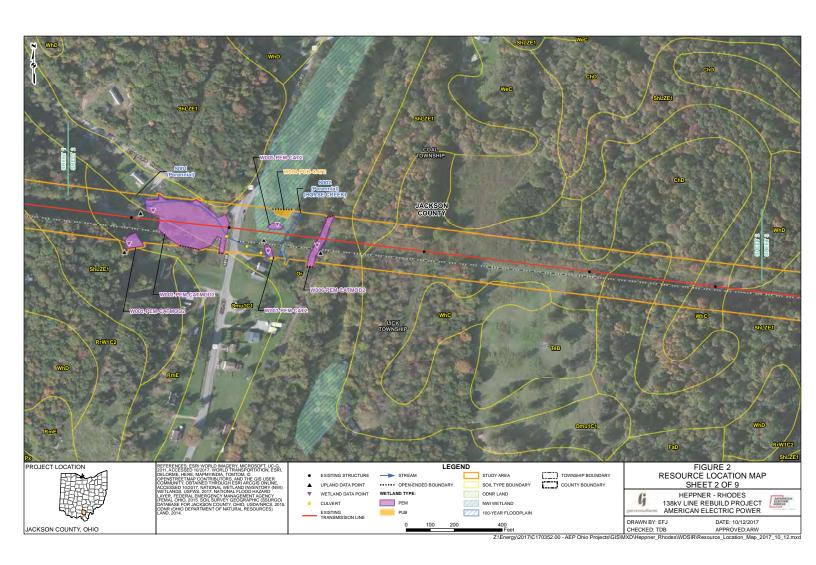
# **FIGURES**

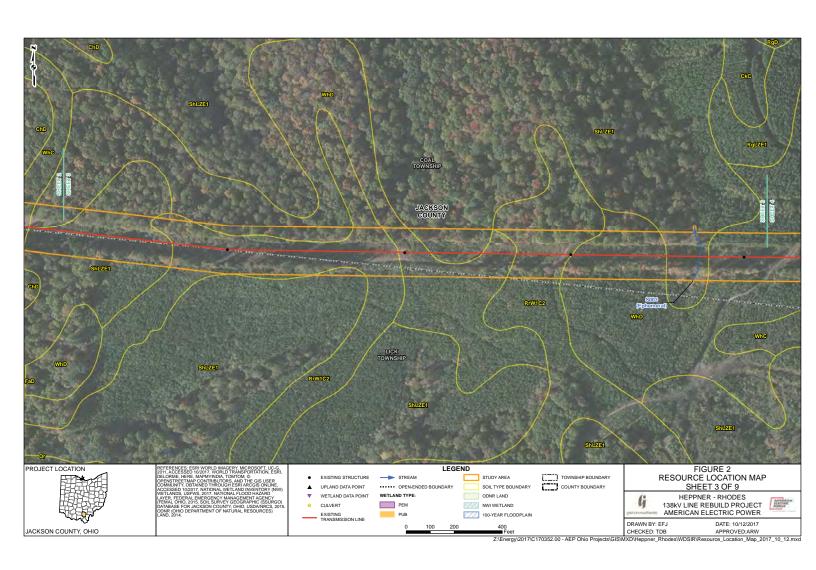


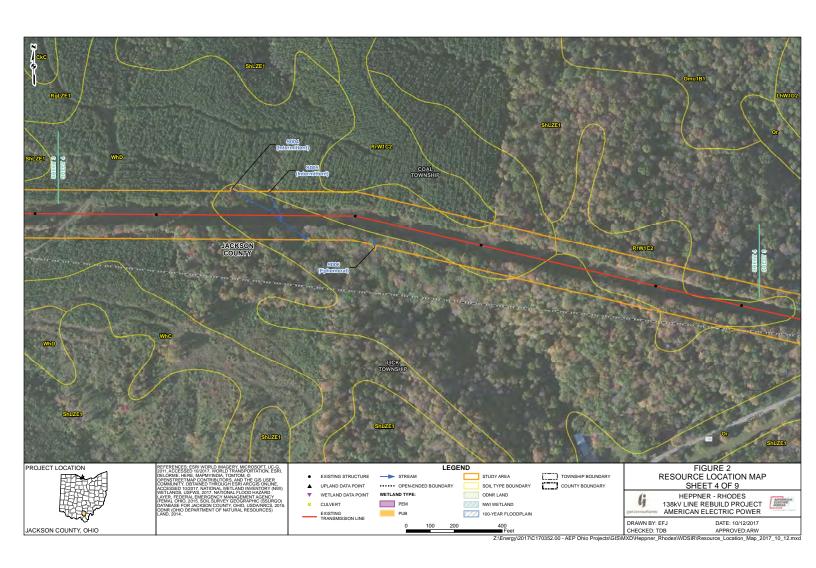


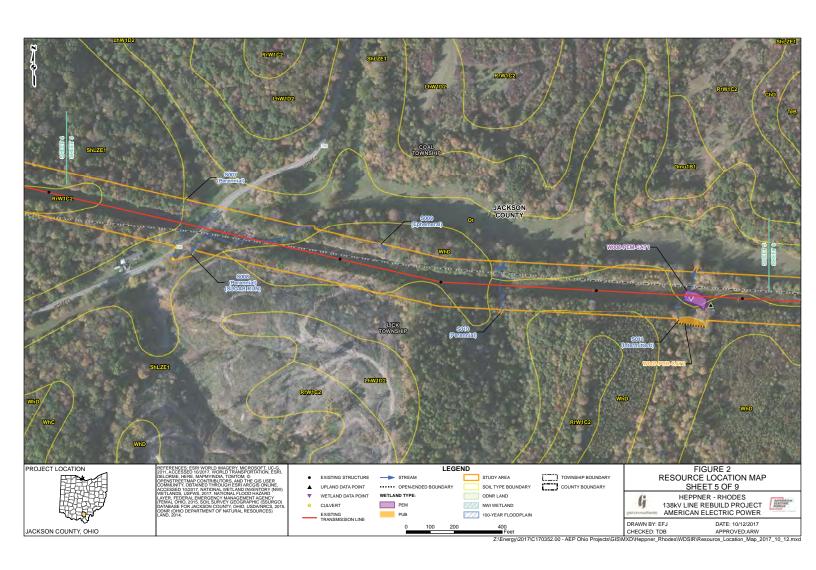


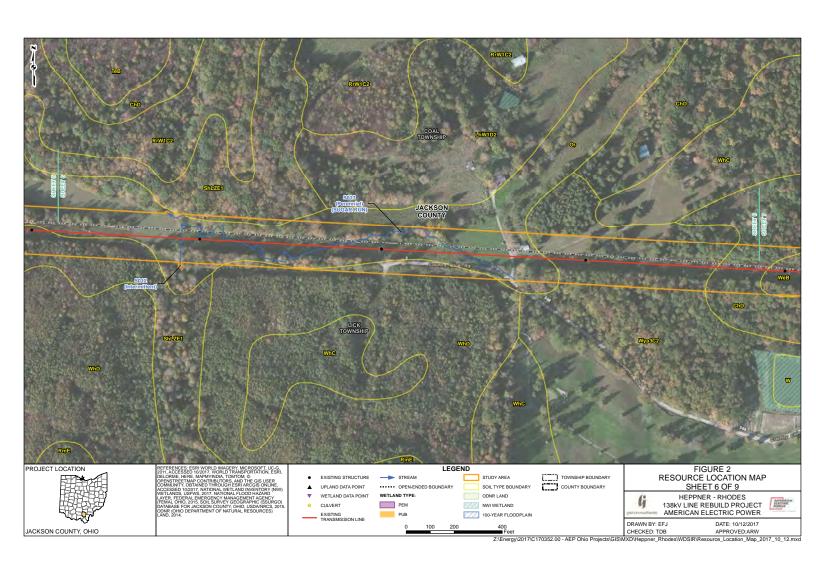


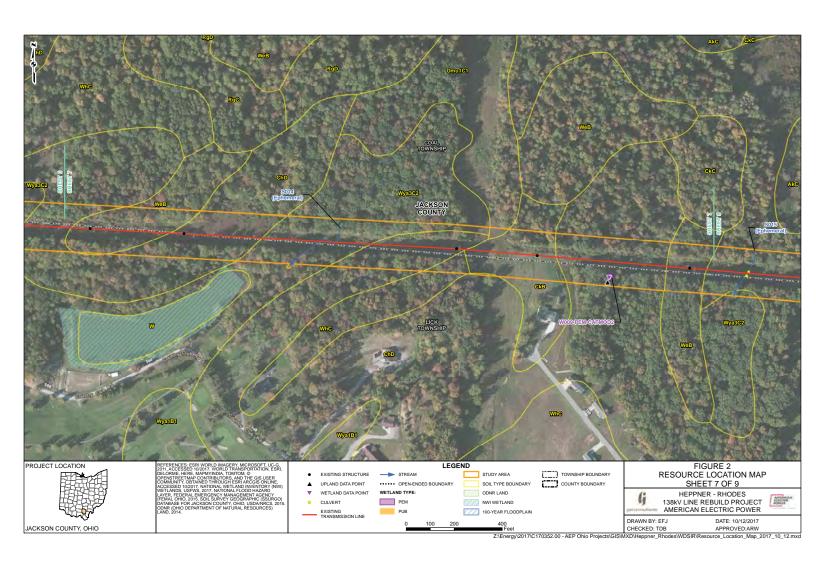


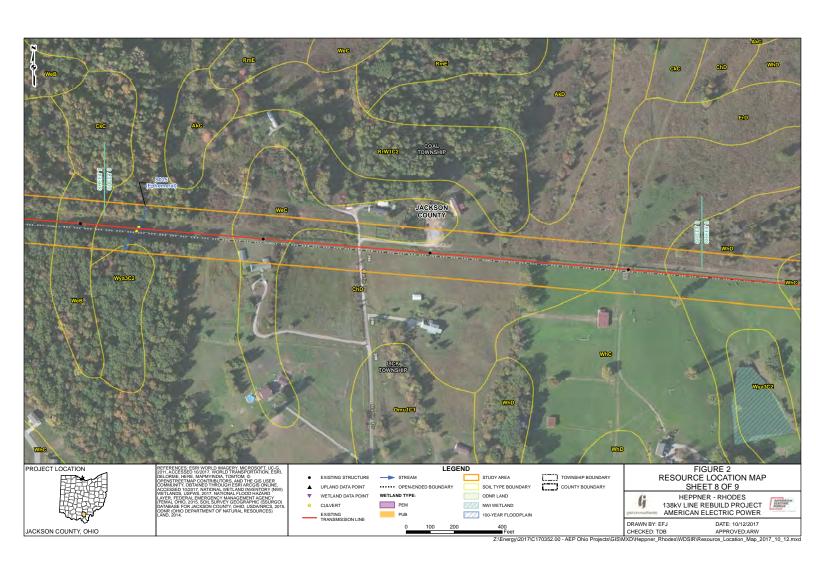


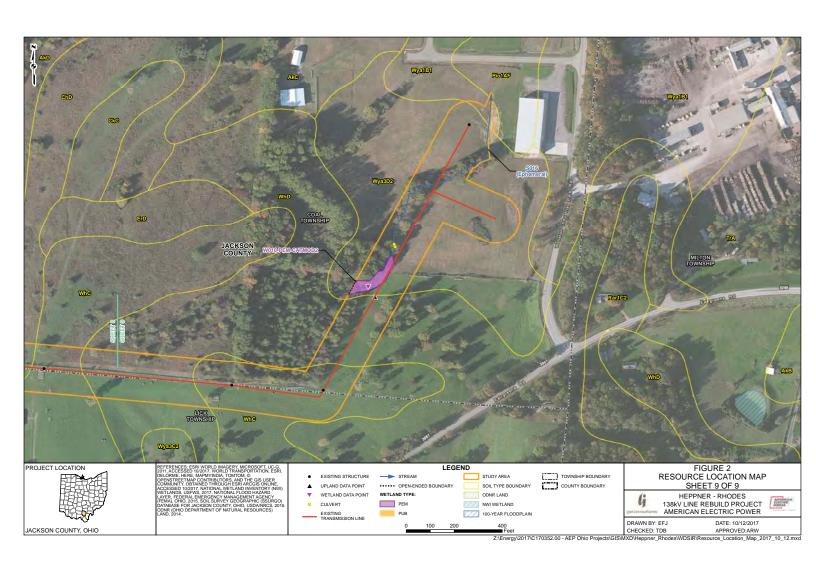


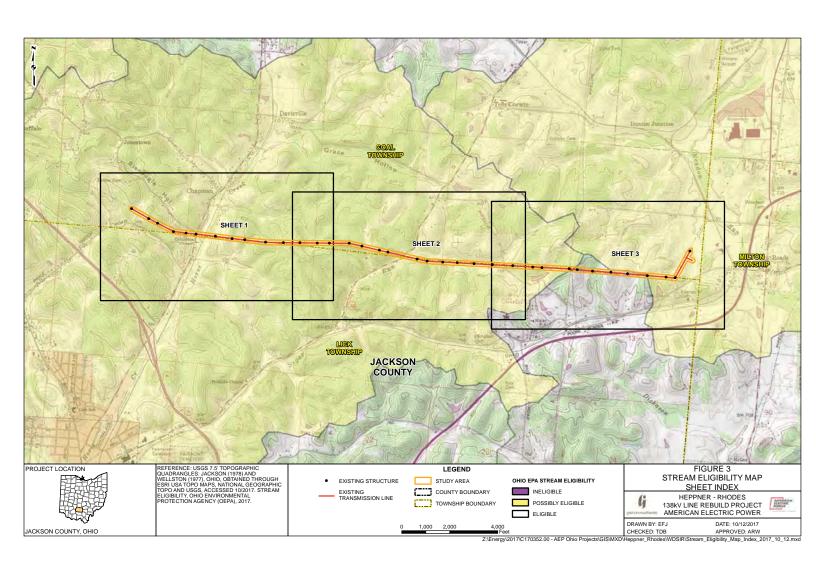


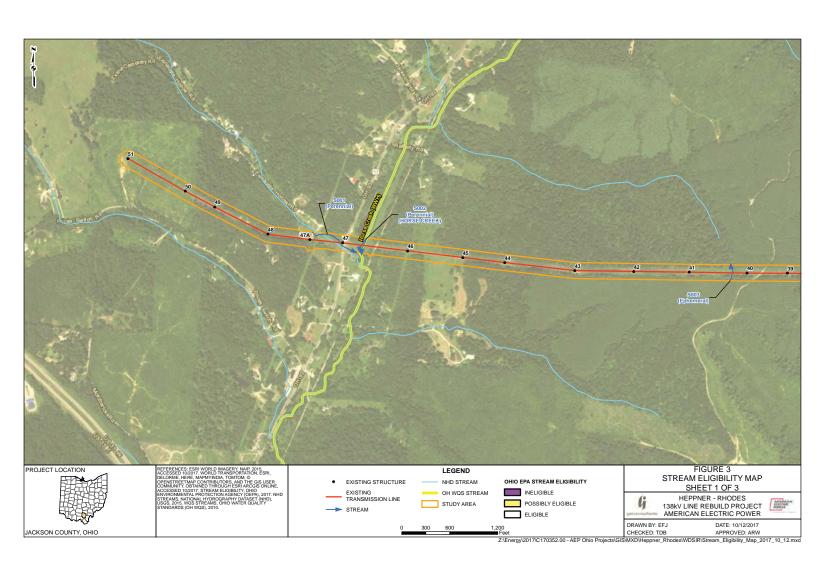


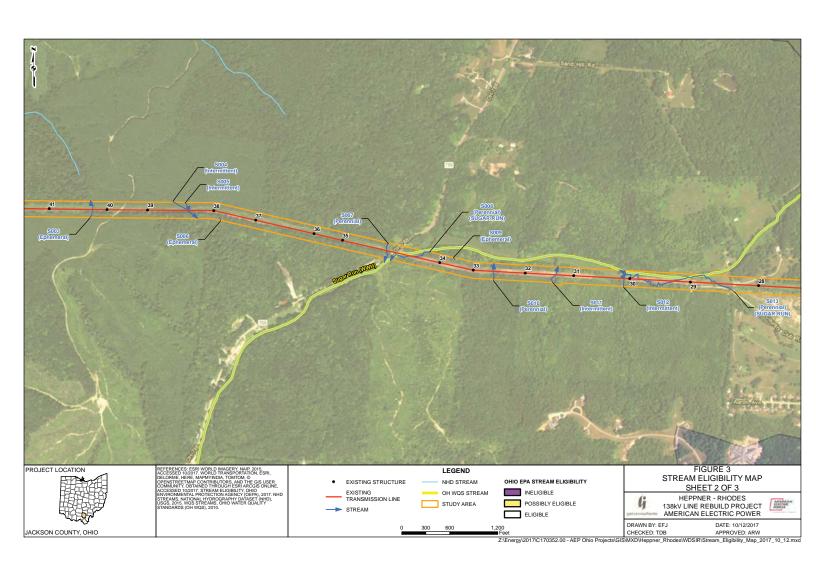


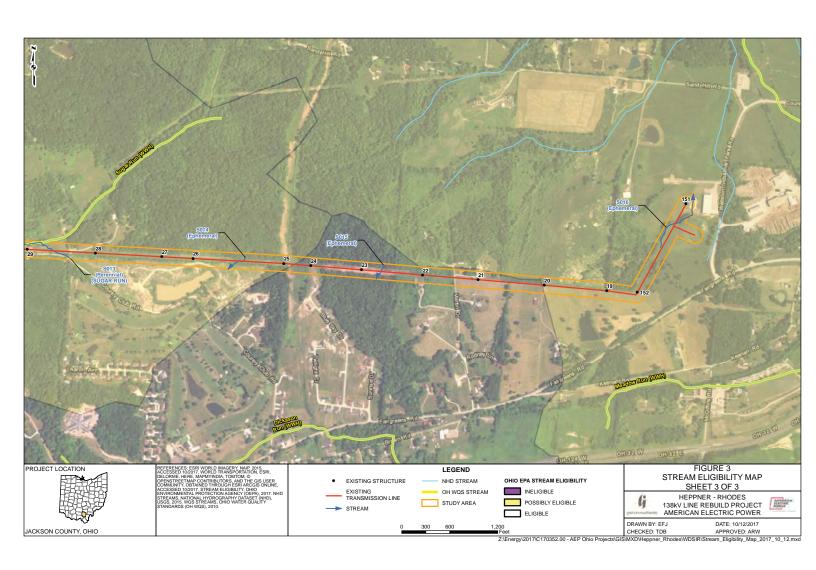


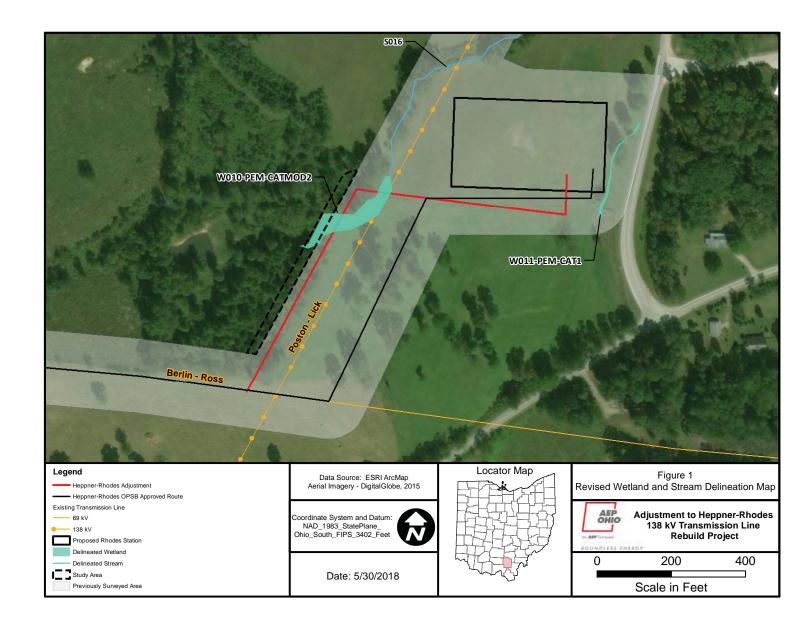














Photograph 1. Wetland W001-PEM-CATMOD2, Facing East



Photograph 2. Wetland W001-PEM-CATMOD2, Facing West





Photograph 3. Wetland W002-PEM-CATMOD2, Facing South



Photograph 4. Wetland W002-PEM-CATMOD2, Facing East





Photograph 5. Wetland W003-PEM-CAT2, Facing South



Photograph 6. Wetland W003-PEM-CAT2, Facing North





Photograph 7. Wetland W004-PUB-CAT2, Facing North



Photograph 8. Wetland W004-PUB-CAT2, Facing South





Photograph 9. Wetland W005-PEM-CAT2, Facing East



Photograph 10. Wetland W005-PEM-CAT2, Facing West





Photograph 11. Wetland W006-PEM-CATMOD2, Facing North



Photograph 12. Wetland W006-PEM-CATMOD2, Facing East





Photograph 13. Wetland W007-PUB-CAT2, Facing South



Photograph 14. Wetland W007-PUB-CAT2, Facing West





Photograph 15. Wetland W008-PEM-CAT1, Facing East



Photograph 16. Wetland W008-PEM-CAT1, Facing West





Photograph 17. Wetland W009-PEM-CATMOD2, Facing North



Photograph 18. Wetland W009-PEM-CATMOD2, Facing South





Photograph 19. Wetland W010-PEM-CATMOD2, Facing North



Photograph 20. Wetland W010-PEM-CATMOD2, Facing South





Photograph 21. Stream S001, Upstream, Facing Northwest



Photograph 22. Stream S001, Downstream, Facing Southeast



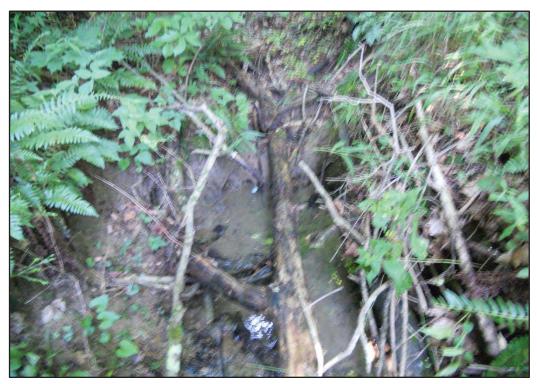


Photograph 23. Stream S002 (Horse Creek), Upstream, Facing North



Photograph 24. Stream S002 (Horse Creek), Downstream, Facing South





Photograph 25. Stream S003, Upstream, Facing South



Photograph 26. Stream S003, Downstream, Facing North





Photograph 27. Stream S004, Upstream, Facing North



Photograph 28. Stream S004, Downstream, Facing South





Photograph 29. Stream S005, Upstream, Facing North



Photograph 30. Stream S005, Downstream, Facing South





Photograph 31. Stream S006, Upstream, Facing North



Photograph 32. Stream S006, Downstream, Facing South





Photograph 33. Stream S007, Upstream, Facing North



Photograph 34. Stream S007, Downstream, Facing Southeast





Photograph 35. Stream S008 (Sugar Run), Upstream, Facing North



Photograph 36. Stream S008 (Sugar Run), Downstream, Facing South





Photograph 37. Stream S009, Upstream, Facing South



Photograph 38. Stream S009, Downstream, Facing North





Photograph 39. Stream S010, Upstream, Facing South



Photograph 40. Stream S010, Downstream, Facing North





Photograph 41. Stream S011, Upstream, Facing South



Photograph 42. Stream S011, Downstream, Facing North





Photograph 43. Stream S012, Upstream, Facing Southwest



Photograph 44. Stream S012, Downstream, Facing Northeast





Photograph 45. Stream S013 (Sugar Run), Upstream, Facing West



Photograph 46. Stream S013 (Sugar Run), Downstream, Facing West





Photograph 47. Stream S014, Upstream, Facing South



Photograph 48. Stream S014, Downstream, Facing North





Photograph 49. Stream S015, Upstream, Facing North



Photograph 50. Stream S015, Downstream, Facing South





Photograph 51. Stream S016, Upstream, Facing Southwest



Photograph 52. Stream S016, Downstream, Facing Northeast





Photograph 53. Representative upland habitat, Facing East



Photograph 54. Representative upland habitat (existing right-of-way), Facing East





Photograph 55. Representative upland habitat, Facing West



Photograph 56. Representative upland habitat, Facing South



## **APPENDIX B**Wetland Determination Data Forms



WETLAND DETERMINATION DATA FORM - Eastern Moun	itains and Piedmont Region
Project/Site: Rhodes City/County: JackStv	Sampling Date: 7/13/2017
(TAH)	tate: OH Sampling Point: W001
Investigator(s): Section, Township, Rai	
Landform (hilslope, terrace, etc.): Local relief (concave, con	Cashai Is
Subregion (LRR or MLRA): Lat. 39. 084 09998 Lor	ng: -82.62319687 Datum: NAD 83
Soil Map Unit Name: ShlZEI-Shchotd-Latham association, Steer	NWI classification. PUBGX
Are climatic/hydrologic conditions on the site typical for this time of year?	No (If no, explain in Remarks)
	Normal Circumstances" present? Yes No
Are Vegetation $\underline{\underline{\cap U}}$ , Soil $\underline{\underline{\cap U}}$ , or Hydrology $\underline{\underline{\cap D}}$ naturally problematic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locati	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes V	
Hydric Soil Present? Yes No Is the Sampled Area with	in a Metland?
<u> </u>	ini a wetiano:
Wetland Hydrology Present? Yes No	
Remarks: Wetland data point for WOO1 - PEM-CATM	
DI - of laters was him I have note in a	764
Data point taken in maintained transmission 1	NOW.
	- 4
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)  Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)  Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2)
Water-Stained Leaves (B9)	Shallow Aquitard (D3)  Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	,
Saturation Present? Yes No Depth (inches): Wetlan (includes capillary fringe)	d Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	2 -2 - 1
Wetland hydrology indicators are ALA3, C	3, DZ, and D5.

- /		80	2 1	7
- 4	1	15 <u>.</u>	TV I	100
- 4	200	1	1	

(inches)	h Matrix Redox Features							
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 11	10/R4/2	100		<u> </u>		-	loam	
2-16	104R4/1	80	104R4/4	20	<u>C</u>	PL	Clayloum	
	7				-	-		
							-	
		_		-		-		
				-	-	-		
				_	-	-		
		-		-		-		
		-				-		
Type: C=concer	ntration, D=Depletion,	RM=Reduc	ed Matrix, MS=Masked	Sand Grains	3,		<sup>2</sup> Location: PL=Pore I	ining, M=Matrix.
Hydric Soil Indic	cators:						Indicators for Proble	ematic Hydric Soils <sup>3</sup> :
Histosol (A1	1)		Dark Surface (	S7)			2 cm Muck (A10	) (MLRA 147)
Histic Epipe	,		Polyvalue Belo	•	8) <b>(MLRA 1</b> 4	7, 148)		edox (A16) (MLRA 147, 148
Black Histic			Thin Dark Surfa					plain Soils (F19)
Hydrogen S			Loamy Gleyed				(MLRA 136, 147	
Stratified La	ayers (A5)		Depleted Matri	x (F3)			Very Shallow Da	ark Surface (TF12)
2 cm Muck	(A10) (LRR N)		Redox Dark Su	rface (F6)			Other (Explain in	n Remarks)
Depleted Be	elow Dark Surface (A1	11)	Depleted Dark	Surface (F7)				
	Surface (A12)		Redox Depress					
	ky Mineral (S1) (LRR	N,	Iron-Manganes			MLRA 136)		
MLRA 147,	ed Matrix (S4)		Umbric Surface Piedmont Floor			148\		
Sandy Redo			Red Parent Ma					
Stripped Ma			11001 010111110	tonai (i z i ) (i	VIETO ( 127, 1	,		
		ion and wetla	and hydrology must be	oresent, unle	ss disturbed	or problema	atic.	
	ver (if observed):					1		
Type:					Hydric			
				Soil Pre		No.		
= 3pti (iiioiii	Bopar (monos).				_ Con riesent:			
Depth (inche	es): n Remarks:							No_

WEILAND DETERMINATION DATA FORM	- Eastern Mountains and Piedmont Region
Project/Site: City/Coun	nty: Jackson Co Sampling Date: 7/13/2017
Applicant/Owner:	State Sampling Point: W001 -UPL
Investigator(s):	Section, Township, Range: Lick Two
Landform (hilslope, terrace, etc.):	al relief (concave, convex, none): Nove Slope (%)
Subregion (LRR or MLRA): Lat: 39, 08400	813 Long: -82.62326409 Datum: NAD 83
Soil Map Unit Name: ShLZEI-Shcloctd-Latham associat	NOT, Steep NWI classification: NA
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks)
Are Vegetation Soil NO , or Hydrology NO significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation ND, Soil ND, or Hydrology ND naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects, important features, etc.
Lludranhutia Vanetation Present? Van	
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No Is the	Sampled Area within a Wetland?
Wetland Hydrology Present? Yes No	
Data point taken in maintained transmis	sion ROW:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Livin	- · · · ·
Water Marks (B1) Presence of Reduced Iron (C4)	
Sediment Deposits (B2)  Recent Iron Reduction in Tilled	
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2)  Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	<u>→</u> ,
Water Table Present? Yes No Depth (inches):	_
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), i	if available:
Become Necestary Bala (electin gauge, memoring went, acres, provides inspections), i	To tallabor
Remarks: Wetland hydrology is not present	

Matrix noist) % 100	Redox Feature Color (moist) %  htrix, MS=Masked Sand Grains.  Dark Surface (S7)	Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks Sil-louim  2 Location: PL=Pore Lining, M=Matrix.			
			<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
			<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
epletion, RM=Reduced Ma						
epletion, RM=Reduced Ma						
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epletion, RM=Reduced Ma						
epletion, RM=Reduced Ma						
epletion, RM=Reduced Ma						
epletion, RM=Reduced Ma						
epletion, RM=Reduced Ma						
L/E	Dark Surface (S7)					
U/=	Dark Surface (S7)		Indicators for Problematic Hydric Soils <sup>3</sup> :			
1/2	Dark Surface (S7)					
-	- Barn Garrago (Gr)		2 cm Muck (A10) (MLRA 147)			
	Polyvalue Below Surface (S8)	(MLRA 147, 148)	Coast Prairie Redox (A16) (MLRA 147, 148)			
-	Thin Dark Surface (S9) (MLRA	\ 147, 148)	Piedmont Floodplain Soils (F19)			
	Loamy Gleyed Matrix (F2)		(MLRA 136, 147)			
-	Depleted Matrix (F3)		Very Shallow Dark Surface (TF12)			
١)	Redox Dark Surface (F6)		Other (Explain in Remarks)			
rface (A11)	Depleted Dark Surface (F7)					
	Redox Depressions (F8)					
1) (LRR N,	Iron-Manganese Masses (F12					
/	Umbric Surface (F13) (MLRA					
1)						
-	Red Parent Material (F21) (ML	.RA 127, 147)				
vegetation and wetland hy	drology must be present, unless	disturbed or problema	itic.			
ved):						
		Hydri	ic			
			Soil Present? Yes No			
		3011 FTE	Sent: Tes			
ve	d):	Red Parent Material (F21) (ML egetation and wetland hydrology must be present, unless d):	Hydr			

	M - Eastern Mountains and Piedmont Region
Project/Site: Homer to Knodes City/Co	unty: Jdc Sun Co Sampling Date: 7/17/2017
Applicant/Owner:	State: OH Sampling Point W002 (PEM)
Investigator(s):	Section, Township, Range: Coal Turb
	ocal relief (concave, convex, none): CONCAVE Slope (%) O
Subregion (LRR or MLRA): Lat: 39.0844	8152 Long: -82. U22 842.11 Datum: NAD 83
Soil Map Unit Name: Or - Drriville Silt John, Oto 31. frea	vently floreded NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks)
Are Vegetation $\underline{NO}$ , Soil $\underline{NO}$ , or Hydrology $\underline{NO}$ significantly disturbed?	Are "Normal Circumstances" present?  Yes  No
Are Vegetation $\boxed{10}$ , Soil $\boxed{10}$ , or Hydrology $\boxed{10}$ naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
	e Sampled Area within a Wetland?  Yes V No
Wetland Hydrology Present? Yes No	
Data point taken in maintained transproperty.	smission Pow and adjocent to residential
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)  Oxidized Rhizospheres on Li	
Water Marks (B1) Presence of Reduced Iron (C	
Sediment Deposits (B2)  Recent Iron Reduction in Tille  Tile Much Outlook (C7)	
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)  Iron Deposits (B5)	Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
71	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes V No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections	, if available;
Welland hydrology Indicators are A	1, A3, C3, D2, and D5

	271 Absolute		Dominance Test worksheet:
Tree Stratum (Plot s	ize: 301 Absolute ) % Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant Species Across All Strate:  (B)
4			Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/I
6		= Total Cover	Prevalence Index worksheet:  Total % Cover of: Multiply by:
1. none	ze: <u>15'</u>		OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =
2			FACU species
5			Prevalence Index = B/A =
7			Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation
0	0	= Total Cover	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1 Onoclea sensibilis 2 Typna xalauca	ze: 5 <sup>1</sup> 30	Y FOCK N Obl	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. Carex Jurida 6. Mimulus alatus	10	N Fach	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Vegetation Strata:
7			Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more diameter.
0			Sapling/Shrub- Woody plants, excluding vines, less than 3 in DBH and greater than or equal to 3.28 ft (1 m) tall.
oody Vine Stratum (Plot size	7.5 ze: 30 <sup>1</sup>	= Total Cover	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
n_None			
s			Woody Vines - All woody vines greater than 3.28 ft in height.
34	0	= Total Cover	
			Hydrophytic Vegetation Present? Yes No

Depth	Matrix		<u> </u>	Redox Featu						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc²	Texture	Remarks		
0-3	104R412	80	7.5 YR414	20		PL	loam			
3-16	101/R4/1	75	7.54R4/4	25	C	PL	Clay loam			
					7					
		-				-				
					-		-			
	-									
	-				_	-				
		-	-		_	-				
	-	1			$\overline{}$					
		+								
		-				-	2, , , , , ,			
Type: C=conce	entration, D=Depletion,	RM=Reduce	ed Matrix, MS=Masked	Sand Grains.			<sup>2</sup> Location: PL=Pore I			
lydric Soil Ind	licators:						Indicators for Proble	ematic Hydric Soils <sup>3</sup> :		
Histosol (A	<b>\1</b> )		Dark Surface (S	7)			2 cm Muck (A10	) (MLRA 147)		
Histic Epip	pedon (A2)		Polyvalue Below		) (MLRA 14	7, 148)	Coast Prairie Re	edox (A16) (MLRA 147, 148		
Black Histi	ic (A3)		Thin Dark Surface	ce (S9) <b>(MLR</b>	A 147, 148)		Piedmont Floodplain Soils (F19)			
Hydrogen \$	Sulfide (A4)		Loamy Gleyed N	fatrix (F2)			(MLRA 136, 147			
Stratified L			Depleted Matrix	(F3)		Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
_	(A10) (LRR N)		Redox Dark Sur							
	Below Dark Surface (A1	1)	Depleted Dark S							
_	: Surface (A12) cky Mineral (S1) (LRR N	J	Redox Depression Iron-Manganese		2) /I DD N I	WI DA 136)				
MLRA 147		•,	Umbric Surface			MERA 130)				
	yed Matrix (S4)		Piedmont Floods			148)				
Sandy Red			Red Parent Mate							
Stripped Ma			=							
3Indicators	of hydrophytic vegetation	on and wetla	nd hydrology must be p	resent, unles	s disturbed	or problema	atic.			
estrictive Lay	yer (if observed):									
Туре:		i				Hydr	ic			
Depth (inch	nes):					Soil Pre		√ No		
oil Descriptio	on Remarks:									
on Descriptio										
	Meets F3	) <sub>k</sub>								

WET! AND DETERMINATION DATA FORM - Easte	ern wountains and Fledmont Region				
Project/Site: Hopping to Rhads City/County: Ja	CSM (0. Sampling Date: 7/17/2017				
Applicant/Owner:	State: OH Sampling Poin W002 - UPL				
Investigator(s): KLV Section, To					
	oncave, convex, none): NOYC Slope (%)				
Subregion (LRR or MLRA): Lat 49.08445270	Long: <u>-82. (02302710</u> Datum: <u>NAD 83</u>				
Soil Map Unit Name: Omula Soft Community Stopes	NWI classification: NWI				
Are climatic/hydrologic conditions on the site typical for this time of year?  Yes	No (If no, explain in Remarks)				
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed?	Are "Normal Circumstances" present? Yes No				
Are Vegetation 10, Soil 10, or Hydrology 10 naturally problematic?	(If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sampling po	oint locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No					
Hydric Soil Present? Yes No Is the Sampled	Area within a Wetland? Yes No				
Wetland Hydrology Present? Yes No					
Remarks:					
Upland data point for wooz.					
opinion ofactor points 10.	The last Or and				
Data point taken in maintained transmissi	ion kow and residential property.				
Data point 100					
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required, check all that apply)  Surface Water (A1)  True Aquatic Plants (B14)	Surface Soil Cracks (B6)				
	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (	Drainage Patterns (B10) C3) Moss Trim Lines (B16)				
Water Marks (B1)  Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)  Recent Iron Reduction in Tilled Soils (C6)					
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)	Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)				
Water-Stained Leaves (B9)	Microtopographic Relief (D4)				
Aquatic Fauna (B13)	FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No Depth (inches):					
Water Table Present? Yes No Depth (inches):					
	Westend Hydrology Process2 Von No.				
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available					
( garage) manually won, some process, provides mephanians, in a canada					
Remarks:					
Westland hydrogen is not one cont					
Wetland hydrology is not present.					
<b>V</b> 1					
	A . " M				

Sampling Point: W002 - UPL

ree Stratum (Plot size: 30	Absolute ) % Cover	Dominant Indicator Species? Status	Dominance Test worksheet:
1. None		تترتث	Number of Dominant Species That Are OBL_FACW, or FAC:
2			Total Number of Dominant Species
3			Across All Strata: (E
4			Percent of Dominant Species That Are
5. 5.			OBL, FACW, or FAC:
7.			Prevalence Index worksheet:
	0_	= Total Cover	Total % Cover of: Multiply by:
pling/Shrub Stratum (Plot size: 15'	)	1.3	OBL species
Kobinia pscudnacacia	5_	Facl	FAC species x 3 =
Rhus copallinum	_ 10_	- Hacv	FACU species x 4 =
			UPL species x 5 =
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
	10		2 - Dominance Test is >50%
	_15_	= Total Cover	3 - Prevalence Index is ≤3,0¹ 4 - Morphological Adaptations¹ (Provide support
b Stratum (Plot size: 5'	_1	6.11	data in Remarks or on a separate sheet)
Glechama heaeracea	30	- Hacy	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Taraxacum officinale	10	H Fact	Indicators of hydric soil and wetland hydrology must
TIAL (ANSCESSELLY LOT VIOLE MORE)			be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			The Mandaulants evaluding since 2 in (7.5 cm) or many
			Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or mor diameter.
			D. H. 18th I. Mandunlanda avaluding vines less than 2
			Sapling/Shrub- Woody plants, excluding vines, less than 3 DBH and greater than or equal to 3.28 ft (1 m) tall.
	60	= Total Cover	
			Herb - All herbaceous (non-woody) plants, regardless
ody Vine Stratum (Plot size: 30'	)	-	of size, and woody plants less than 3.28 ft tall.
none			
	-		Woody Vines - All woody vines greater than 3.28 ft in
			height.
	0	= Total Cover	
			Hydrophytic Vegetation
			Present? Yes No

(inches) Color (moist) % Color (moist) % Type Loc STexture Remarks    Color (moist) % Suffection   Suffection	Depth (inches)	Matrix	0/	Col (-r -!-4)	Redox Features  % Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Pemarks
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Higher Histosol (A4) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) (MLRA 143, 147)  2 cm Muck (A10) (LRR N) Depleted Matrix (F3) Very Shallow Dark Surface (TF12)  2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Other (Explain in Remarks)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Inon-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Mucky Mineral (S1) (LRR N, Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric  Soil Present? Yes No				Color (moist)	%Type	Loc	- 111	Remarks
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Higher Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) (MLRA 136, 147)  Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12)  Cother (Explain in Remarks)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 147, 147)  Stripped Matrix (S6)  Type: Hydric  Depth (inches): Hydric  Soil Present? Yes No		10						
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Hack Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) (MLRA 136, 147) Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12) Cother (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136) MLRA 147,148) Umbric Surface (F13) (MLRA 148) Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 147) Stripped Matrix (S6)  Type: Hydric Depth (inches): Yes No			-		-	-		
Indicators for Problematic Hydric Soils <sup>3</sup> :  Histosol (A1)		·——						
Indicators for Problematic Hydric Soils <sup>3</sup> :  Histosol (A1)								
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Histor (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) (MLRA 136, 147) Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12) Cother (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136) MLRA 147,148) Umbric Surface (F13) (MLRA 136, 122) Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 147) Stripped Matrix (S6)  Type: Hydric Depth (inches): Yes No						_		
Indicators for Problematic Hydric Soils <sup>3</sup> :  Histosol (A1)						-		
Indicators for Problematic Hydric Soils <sup>3</sup> :  Histosol (A1)								
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Hlack Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) (MLRA 136, 147) Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12) Cother (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136) MLRA 147,148) Umbric Surface (F13) (MLRA 146, 122) Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6)  Type: Hydric Depth (inches): Yes No								
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Higher Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) (MLRA 1436, 147) Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12) Com Muck (A10) (LRR N) Redox Dark Surface (F6) Other (Explain in Remarks)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Inon-Menganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Gleyed Matrix (S4) Pledmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 147, 147)  Stripped Matrix (S6)  **Judicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**  **Trictive Layer (if observed):** Type: Hydric Depth (inches): Yes No	SUPER SE		-				2	
Histosol (A1)  Histosol (A2)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Polepleted Matrix (F2)  Common Floodplain Soils (F19)  MLRA 136, 147)  Very Shallow Dark Surface (TF12)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136)  MLRA 147,148)  Sandy Redox (S5)  Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Jandicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric  Soil Present?  Yes  No  Coast Prairie Redox (A16) (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  (MLRA 147, 148)  Coast Prairie Redox (A16) (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  MLRA 136, 147)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Depleted Dark Surface (F13)  MLRA 136, 122)  Sandy Mucky Mineral (S1) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Jandicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	e: C=conc	entration, D=Depletion,	RM=Reduced	Matrix, MS≃Masked	d Sand Grains.			
Histic Epipedon (A2)	tric Soil Ind	licators:					Indicators for Problematic	Hydric Soils <sup>3</sup> :
Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) (MLRA 136, 147) Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Other (Explain in Remarks)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136) MLRA 147,148) Umbric Surface (F13) (MLRA 136, 122) Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**  **Irrictive Layer (if observed):  Type:  Depth (inches):  **Yes No					•	7 449\		•
Hydrogen Sulfide (A4)  Loamy Gleyed Matrix (F2)  Stratified Layers (A5)  Depleted Matrix (F3)  Pepleted Matrix (F3)  Com Muck (A10) (LRR N)  Redox Dark Surface (F6)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136)  MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Pick Dark Surface (F13) (MLRA 127, 147)  Stripped Matrix (S6)  Junticators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type:  Depth (inches):  Yes  No  MLRA 136, 147)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)			0.9	_				
Stratified Layers (A5)  Depleted Matrix (F3)  2 cm Muck (A10) (LRR N)  Redox Dark Surface (F6)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F7)  Thick Dark Surface (A12)  Redox Depressions (F8)  Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136)  MLRA 147,148)  Umbric Surface (F3) (MLRA 136, 122)  Sandy Gleyed Matrix (S4)  Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5)  Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Type:  Depth (inches):  Yes  No			1 P					ilis (F 19)
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Other (Explain in Remarks)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)  Thick Dark Surface (A12) Redox Depressions (F8)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  MLRA 147,148) Umbric Surface (F13) (MLRA 136, 122)  Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Type: Hydric  Depth (inches): Yes No								
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)  Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136)  MLRA 147,148) Umbric Surface (F13) (MLRA 136, 122)  Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Itrictive Layer (if observed):  Type: Hydric  Depth (inches): Yes No			1.04					
Thick Dark Surface (A12)	2 cm Muck	(A10) (LRR N)	-	Redox Dark Su	urface (F6)		Other (Explain in Rema	rks)
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136)  MLRA 147,148) Umbric Surface (F13) (MLRA 136, 122)  Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)   3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type: Hydric  Depth (inches): Soil Present? Yes No	Depleted B	Below Dark Surface (A11	1)	Depleted Dark	Surface (F7)			
MLRA 147,148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Pledmont Floodplain Soils (F19) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type:  Depth (inches):  Hydric  Soil Present?  Yes  No	Thick Dark	Surface (A12)		Redox Depres	sions (F8)			
Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)   3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type: Hydric  Depth (inches): Soil Present? Yes No	Sandy Mud	cky Mineral (S1) (LRR N	,	Iron-Manganes	se Masses (F12) (LRR N,	MLRA 136)		
Sandy Gleyed Matrix (S4) Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147)  Stripped Matrix (S6)   3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type: Hydric  Depth (inches): Soil Present? Yes No			9.	Umbric Surface	e (F13) (MLRA 136, 122)			
Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6)   3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type: Hydric Depth (inches): Soil Present? Yes No	Sandy Gle	ved Matrix (S4)				148)		
Stripped Matrix (S6)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Strictive Layer (if observed):  Type:  Depth (inches):  Hydric  Soil Present?  Yes  No			-	_				
Type: Hydric Depth (inches): Soil Present? Yes No \( \square\$			-	Red Farent Ma	ateriai (F21) (MILIVA 121, 1	***		
Type: Hydric Depth (inches): Soil Present? Yes No	<sup>3</sup> Indicators	of hydrophytic vegetation	n and wetland	hydrology must be	present, unless disturbed	or problema	tic.	
Depth (inches):  Soil Present? Yes No V	trictive La	yer (if observed):						
	Туре:					Hydri	c	/
Description Remarks: Hydric Soils are not present.	Depth (inch	nes):				Soil Pres	sent? Yes	No
Hydric Soils are not present.	I Description	on Remarks:			1			
	0 (2.28 - 1 ) 2 (3) - 24	Hudric	Soilsare	not prese	nt.			
		1						

WETLAND DETERMINATION DATA FORM - Eastern Moun	tains and Piedmont Region			
Project/Site: Happing to Rhod 5 City/County: DCKSON	Co. Sampling Date: 7   7   2017			
1,100	State: OH Sampling Point: W003 (PEM)			
Investigator(s): Section, Township, Rar	17 1			
Landform (hilslope, terrace, etc.):  Local relief (concave, con-	Varia m./			
Subregion (LRR or MLRA): Lat: 39.0840[624 Lon	00 10115101			
Soil Map Unit Name: Or-Orrville Sittlem. Oto3 1. Slopes frequently	NWI classification: N/A			
Are climatic/hydrologic conditions on the site typical for this time of year?	No (If no, explain in Remarks)			
	Normal Circumstances" present? Yes No			
2)	eded, explain any answers in Remarks )			
SUMMARY OF FINDINGS - Attach site map showing sampling point location				
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes No Is the Sampled Area with	in a Wetland? Yes No			
Wetland Hydrology Present? Yes No				
Remarks:				
Data point taken in maintained transmiss				
	7001			
Dutipoint taken in maintained transmiss	olm Kow			
Dala Politic Control				
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)			
Saturation (A3)  Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)			
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)			
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)			
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)	V Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)			
Water-Stained Leaves (B9) Aquatic Fauna (B13)	Microtopographic Relief (D4)  FAC-Neutral Test (D5)			
Aquatic I autia (B13)	TACTICULAL TEST (DS)			
Field Observations:				
Surface Water Present? Yes No Depth (inches):				
Water Table Present? Yes No Depth (inches):				
Saturation Present? Yes No Depth (inches): Wetlan	d Hydrology Present? Yes No			
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				
Wetland Hydrology Indicators are C	3 D2 and D5			
Matter Manage of Matter College of a				
	V 21			

ee Stratum (Plot size: 30)	Absolute ) % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
home	7, 0000	<u> </u>	Otaldo	Number of Dominant Species That Are OBL, FACW, or FAC:	(A)
2					
3.				Total Number of Dominant Species Across All Strate:	(B)
4				1	
5				Percent of Dominant Species That Are OBL, FACW, or FAC:	(A)
6					
7	-6	= Total Cove		Prevalence Index worksheet:  Total % Cover of: Multiply	bye
1 = 1		- Total Cove	31	OBL species x 1 =	
ppling/Shrub Stratum (Plot size: 15	)			FACW species x 2 =	
nine				FAC species x 3 =	
3				UPL species x 5 =	
4				Column Totals: (A)	(
5			-	Prevelence Index - R/A -	
5 7				Prevalence Index = B/A =	
3				Hydrophytic Vegetation Indicators:	
9				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%	
)	-0	= Total Cove	er	3 - Prevalence Index is ≤3.0¹	
61				4 - Morphological Adaptations <sup>1</sup> (Provide su	
Eupatorium perfoliatum		N	Fach	data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation <sup>1</sup> (Exp	
Scirpus citrovirens.	10	N	06	Troubling to Try to Vogetation (Exp	,
Impatiens capensis	15	N	Fach	Indicators of hydric soil and wetland hydrology must	
Carex Incha	- 15	N	001	be present, unless disturbed or problematic.  Definitions of Vegetation Strata:	_
Aarimonia barviflora	35	7	FACW	beliminate of regulation order.	
Asclepias Incarnata	5	N	061	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) o	r more
				diameter_	
).					
				Sapling/Shrub- Woody plants, excluding vines, less t	han 3
2.	85	= Total Cove	ar a	DBH and greater than or equal to 3.28 ft (1 m) tall	
	00	- Total Gove	'		
201			9 1	Herb - All herbaceous (non-woody) plants, regardless	
oody Vine Stratum (Plot size: 50'	)			of size, and woody plants less than 3.28 ft tall	
2					
3.				Woody Vines - All woody vines greater than 3.28 ft in	
k				height	
3					
		= Total Cove	er		
			~ 11	Hydrophytic	
			- 1	Vegetation	
				Present? Yes // No	

Soil Profile D	escription: (Describe to	the depth no	eded to document th	e indicator o	or confirm t	he absence	of indicators.)	
Depth	Matrix			Redox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14	101/24/2	75	7.54R44	25	C	PL	Sittloam	
				_	$\overline{}$	_		
1				_	_			
-								
		-				1		
				_				
-					_		-	
-	-							
<sup>1</sup> Type: C=cond	centration, D=Depletion, F	RM=Reduced	Matrix, MS=Masked S	Sand Grains			<sup>2</sup> Location: PL=Pore L	ining, M=Matrix
Hydric Soil Inc	dicators:						Indicators for Proble	matic Hydric Soils <sup>3</sup> :
1.15=1	A 4 )		D-10:1	7)			0 14 1 /140	\/MI D A 4.47\
Histosol (	·		Dark Surface (S	•	/MI DA 44*	7 440\	2 cm Muck (A10	
Black His	pedon (A2)		Polyvalue Below Thin Dark Surfac				dox (A16) (MLRA 147, 148)	
	Sulfide (A4)				A 147, 140)		Piedmont Floodp	
-	Layers (A5)		Loamy Gleyed M Depleted Matrix				(MLRA 136, 147	rk Surface (TF12)
	k (A10) (LRR N)		Redox Dark Surf				Other (Explain in	
	Below Dark Surface (A11	\					Other (Explain in	Remarks)
	k Surface (A12)	,	Depleted Dark S Redox Depression					
	rcky Mineral (S1) (LRR N,		Iron-Manganese		) (IRRN N	ALRA 136)		
MLRA 14		2	Umbric Surface			merra 100)		
	eyed Matrix (S4)		Piedmont Flood			148)		
Sandy Re			Red Parent Mate	•				
	Matrix (S6)			. , ,	,	•		
3Indicators	s of hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unles	s disturbed	or problema	tic.	
	ayer (if observed):		., .,	and the second		1		
	., ., ., ., ., ., ., ., ., ., ., ., ., .					Hydri		
Type:								. /
Depth (inc	:hes):					Soil Pres	sent? Yes _	No
						4,-		
Soil Descripti	on Remarks:	1-						
	1,150	ts F	<b>)</b> ,					

WETLAND DETERMINATION DATA	FORM - Eastern Mountains and Piedmont Region
Project/Site: Applicant/Owner: Investigator(s): Landform (hilslope, terrace, etc.): Subregion (LRR or MLRA): Lat 391.08  Soil Map Unit Name: Or Or VIII SitHoom O to 3 7.516  Are climatic/hydrologic conditions on the site typical for this time of year?  Are Vegetation \( \bar{N} \bar{O} \), Soil \( \bar{N} \bar{O} \), or Hydrology \( \bar{N} \bar{O} \) significantly disturble Are Vegetation \( \bar{N} \bar{O} \), Soil \( \bar{N} \bar{O} \), or Hydrology \( \bar{N} \bar{O} \) naturally problem	State: Sampling Date: State: Sampling Point: W003/005 - UPL  Section, Township, Range: Slope (%) OL.  Local relief (concave, convex, none): Slope (%) OL.  Long: 82, 02 2 1 6 9 Datum: NWI classification: NWI
Hydrophytic Vegetation Present? Yes No V Hydric Soil Present? Yes No V Wetland Hydrology Present? Yes No V	Is the Sampled Area within a Wetland?  Yes No
Dota point taken in maintained	transmission ROW.
HYDROLOGY	
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required, check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Aquatic Fauna (B13)	r (C1) Drainage Pattems (B10) s on Living Roots (C3) Moss Trim Lines (B16) Iron (C4) Dry-Season Water Table (C2) in Tilled Soils (C6) Crayfish Burrows (C8) 7) Saturation Visible on Aerial Imagery (C9)
Field Observations:	
Surface Water Present?  Water Table Present?  Yes  No  Depth (inches):  Depth (inches):  Saturation Present?  Yes  No  Depth (inches):  Depth (inches):  Output  Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe-	ctions), if available:
Remarks: Welland Hydrology Indicators a	re not present.

Sampling Point: W003/005

-UPL

21	1.	Absolute	Dominant Indicator	Dominance Test worksheet:		
e <u>Stratum</u> (Plot size:	))	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:	0	_(/
			3 <del></del>	Total Number of Dominant Species Across All Strala:	2	(1
				Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(/
				Prevalence Index worksheet:		_
	_	0	= Total Cover		Multiply by:	
ng/Shrub Stratum (Plot size:	5'			OBL species x 1 = FACW species x 2 =		
NMC (Flot size:	1			FAC species x 3 =		
110110			_	FACU species x 4 =		
				UPL species x 5 =		
				Column Totals: (A)		
				Prevalence Index = B/A =		
		_		Hydrophytic Vegetation Indicators:		
				1 - Rapid Test for Hydroph	ytic Vegetation	
				2 - Dominance Test is >50	1%	
		0	= Total Cover	3 - Prevalence Index is ≤3	.0 <sup>1</sup>	
	- 1	•		4 - Morphological Adaptati	ons <sup>1</sup> (Provide supp	or
Stratum (Plot size:	)'		1.124	data in Remarks or on a	separate sheet)	
Solidago Canadensis		35	- Fact	Problematic Hydrophytic V	egetation <sup>1</sup> (Explain	)
Daucus Carota		10	N Facl	24		
Agrimonia parvitiona		9	N Fac	Indicators of hydric soil and wetland hydrol	logy must	
Vernonia giganted		19	y Fact	be present, unless disturbed or problematic.		_
,,,			100000	Definitions of Vegetation Strata:		
				Tree - Woody plants, excluding vines, 3	3 in. (7.6 cm) or m	101
				diameter		
				Sapling/Shrub- Woody plants, excluding		1 3
		1.0	T.110	DBH and greater than or equal to 3.28 to	ft (1 m) tall.	
	_	00	= Total Cover			
	2 2 1			Herb - All herbaceous (non-woody) plan	nts, regardless	
y Vine Stratum (Plot size:	<u>'</u>			of size, and woody plants less than 3.28	3 ft tall	
none		_				
				Woody Vines - All woody vines greater	than 3 28 ft in	
				height.		
		0	= Total Cover			_
				Hydrophytic	-	
				Vegetation Present? Yes	No 1	
				Present? Yes	NO_V	4
tation Remarks: (Include photo numbers here or	on a separate sh	neet)_				_
Upland veg is dor	nindnt					
opiai in vaj.						

UPL

Denth	Matrix			Redox Featu	ires			
Depth (inches)	Color (moist) 10YR 412 10YR 43	100 100	Color (moist)	- %	Type <sup>1</sup>	Loc²	Texture SiHloam SiHloam	Remarks
ype: C=conc	entration, D=Depletion,	RM=Reduced	Matrix, MS=Masked	Sand Grains			<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.
lydric Soil Ind	licators:						Indicators for Prob	lematic Hydric Soils <sup>3</sup> :
Black Hist Hydrogen Stratified I 2 cm Mucl Depleted I Thick Darl Sandy Mu MLRA 147 Sandy Gle Sandy Rec	pedon (A2) ic (A3) Sulfide (A4) Layers (A5) k (A10) (LRR N) Below Dark Surface (A1 k Surface (A12) cky Mineral (S1) (LRR N 7,148) eyed Matrix (S4) dox (S5)	N,	Dark Surface (S Polyvalue Belov Thin Dark Surfa Loamy Gleyed N Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi Iron-Manganess Umbric Surface Piedmont Flood Red Parent Mat	v Surface (Stoce (S9) (MLI Matrix (F2) (F3) face (F6) Surface (F7) ions (F8) Masses (F1 (F13) (MLRA plain Soils (F erial (F21) (M	2) (LRR N, M A 136, 122) 	LRA 136) 48) 7)	Coast Prairie F Piedmont Floo (MLRA 136, 14 Very Shallow D Other (Explain	ark Surface (TF12)
	yer (if observed):							
Type: Depth (inc	hes):					Hydr Soil Pre		No
Soil Descripti	on Remarks:	Soils	are not pre	sent.				

WETLAND DETERMINATION DATA FORM - Eastern Mou	ntains and Piedmont Region
Project/Site: Hopping to Rhodes City/County: Jackson	Co Sampling Date: 7/18/2017
II AFD	State: OH Sampling Point: W005
Investigator(s): Section, Township, Ra	
Landform (hilslope, terrace, etc.): Local relief (concave, con	nvex, none): Concave Slope (%)
Subregion (LRR or MLRA): LRR Lat: 39.08432477 Lc	ong: _82.62101983 Datum: NAD 83
Soil Map Unit Name: Or-Orriville Sitt loam, Oto 37. Slopes trequen	NWI classification: NA
Are climatic/hydrologic conditions on the site typical for this time of year?	No (If no, explain in Remarks)
Are Vegetation 100, Soil 100, or Hydrology 100 significantly disturbed?	"Normal Circumstances" present? Yes No
Are Vegetation $\[\underline{\mathcal{N}0}\]$ , Soil $\[\underline{\mathcal{N}0}\]$ , or Hydrology $\[\underline{\mathcal{N}0}\]$ naturally problematic? (If n	needed, explain any answers in Remarks )
SUMMARY OF FINDINGS - Attach site map showing sampling point locat	tions, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	,
Hydric Soil Present? Yes No Is the Sampled Area with	hin a Wetland?
	Tes No
Wetland Hydrology Present? Yes No	
Remarks: Welland, data point for 1 WOOD - PEM-CATZ	
Data point taken at edge of maintained-	transmission Row and
between NWI (PUB) and riparian of Hou	rse Criek.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)  Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)  Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)  Weter Steined Legyer (B0)	Shallow Aquitard (D3)
Water-Stained Leaves (B9) Aquatic Fauna (B13)	Microtopographic Relief (D4)  FAC-Neutral Test (D5)
Aqualic Faulia (1513)	FAC-Neutral Test (D3)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	/
Saturation Present? Yes No Depth (inches): Wetland	nd Hydrology Present? Yes No
(includes capillary fringe)	6.62( 6.23)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	2 52 155
Wetland Hydrology Indicators are ALPAS, C	3, D2, and D5

1. Salix nigra 2. Platinus occidentalis 3.	Absolute ) % Cover 10	Dominant Species?	Status Obl	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  (A)
1. Acc rubrum 2	15	= Total Cov	Fac	Percent of Dominant Species That Are OBL, FACW, or FAC:         (A/B)           Prevalence Index worksheet:
5 6 7 8 9 10 Plot size: 5 1 1 Propositions Captions Captions 3. 4 5 6 7.	10_		er FacW Obl	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Vegetation Strata:  Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in
8. 9. 10. 11. 12.  Woody Vine Stratum 1.			er	Sapling/Shrub- Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall  Woody Vines - All woody vines greater than 3.28 ft in
4		= Total Cov	er	Hydrophytic Vegetation Present? Yes No
Vegetation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here or on a separation Remarks: (Include photo numbers here)		passe	es the	dominance test

Sampling Point: W005 . ( PEV

	pth needed to document the indicator or co	nfirm the absenc	e of indicators.)	
Depth (inches) Color (moist) 9  O-4 IOVR 411 80	Redox Features  Color (moist) % To the seatures  7.5 VR 44 20 C  7.5 VR 44 20 C	PL PL	Sittlam Claylaim	Remarks
Type: C=concentration, D=Depletion, RM=Re	educed Matrix, MS=Masked Sand Grains.		<sup>2</sup> Location: PL=Pore L	
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	Dark Surface (S7) Polyvalue Below Surface (S8) (MLI Thin Dark Surface (S9) (MLRA 147 Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LR Umbric Surface (F13) (MLRA 136, Piedmont Floodplain Soils (F19) (MRA 136) Red Parent Material (F21) (MLRA 136)	, 148) R N, MLRA 136) 122) LRA 148)	Piedmont Floodp (MLRA 136, 147 Very Shallow Da Other (Explain in	) (MLRA 147) dox (A16) (MLRA 147, 148) blain Soils (F19) ) rk Surface (TF12)
<sup>3</sup> Indicators of hydrophytic vegetation and restrictive Layer (if observed):  Type:  Depth (inches):	wetland hydrology must be present, unless dist	Hydi	ric	✓ No
Soil Description Remarks: Meets	F3 and Fle			

TT ALL	r: JOCKSON CO. Sampling Date: 7/18/201
11 11 1	
Applicant/Owner:	State: OH Sampling Point: W006
Investigator(s):	ction, Township, Range: COUTUP
Landform (hilslope, terrace, etc.):	relief (concave, convex, none) Slope (%)
Subregion (LRR or MLRA): Lat: 31.08408	81 Long: 782, 6204372 Datum: NAD 83
Soil Map Unit Name: Or-Orrville Sittledm, 01031. Stops,	requertly House NWI classification: NA
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks)
Are Vegetation $\underbrace{00}_{00}$ , Soil $\underbrace{00}_{00}$ , or Hydrology $\underbrace{00}_{00}$ significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation $M$ , Soil $M$ , or Hydrology $M$ naturally problematic?	(If needed, explain any answers in Remarks )
SUMMARY OF FINDINGS - Attach site map showing samp	oling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No Is the S	ampled Area within a Wetland?
Wetland Hydrology Present? Yes No	
Remarks: Welang data point for WOOG - PET	M-CATMODZ.
Dota point taken in maintained train	simssion Row and next to active
railroad tracks.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1), True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)  Oxidized Rhizospheres on Living	Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled S	
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)  Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Field Observations: Surface Water Present?  Yes No Depth (inches):	
Field Observations:	
Field Observations:  Surface Water Present?  Water Table Present?  Yes   No Depth (inches):  O  Saturation Present?  Yes   No Depth (inches):  O  Depth (inches):	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present?  Water Table Present?  Yes   No Depth (inches):  O  Saturation Present?  Yes   No Depth (inches):  Depth (inches):  O  Depth (inches):	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No
Field Observations:  Surface Water Present? Yes V No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	Wetland Hydrology Present? Yes No

Sampling Point: W006

1 1 1	
1 1 1	
LI LIII	

	Dominant Indicator Species? Status	Dominance Test worksheet:
6 Cover	Species? Status	Number of Dominant Species That Are OBL. FACW. or FAC: (A)
_		OBL, FACW, or FAC:
_		Total Number of Dominant Species
		Across All Strala: (B)
-		Percent of Dominant Species That Are
		OBL, FACW, or FAC:
		1
		Prevalence Index worksheet:
	= Total Cover	
	100	OBL species
5	V Obl	FAC species x 3 =
5	V Obl	FACU species x 4 =
	E LE LE	UPL species x 5 =
		Column Totals: (A) (B)
_		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
10	= Total Cover	3 - Prevalence Index is ≤3.01
		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10	I MAIN	data in Remarks or on a separate sheet)
20	N OOI	Problematic Hydrophytic Vegetation¹ (Explain)
20	J. 66	Indicators of hydric soil and wetland hydrology must
15	Fac	be present, unless disturbed or problematic.
	1000	Definitions of Vegetation Strata:
		Tree - Woody plants, excluding vines, 3 in (7.6 cm) or more in
		diameter.
_		
		Sapting/Shrub- Woody plants, excluding vines, less than 3 in.  DBH and greater than or equal to 3.28 ft (1 m) tall.
75	= Total Cover	BBT and greater than or equal to 0.20 it (1 iii) tails
		Herb - All herbaceous (non-woody) plants, regardless
		of size, and woody plants less than 3.28 ft tall
_		
-		Woody Vines - All woody vines greater than 3 28 ft in
		height.
		, moight.
	= Total Cover	
		Hydrophytic
		Vegetation Present? Yes \ No
		Present? Yes \/ No
	10 30 20 15	= Total Cover    O

(PEM)

Depth	Matrix			Redox Featu				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
)-\(p	104R4/1	85	1.5YR414	15_		PL	Clayloum	
pe: C=cond	entration, D=Depletion,	RM=Reduc	ed Matrix, MS=Masked	Sand Grains			<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
dric Soil Inc	dicators:						Indicators for Problematic Hydric Soils <sup>3</sup> :	
Black Hist Hydrogen Stratified I 2 cm Muc Depleted Thick Dark Sandy Mu MLRA 14: Sandy Gle Sandy Re Stripped M	pedon (A2) tic (A3) Sulfide (A4) Layers (A5) k (A10) (LRR N) Below Dark Surface (A1 k Surface (A12) tcky Mineral (S1) (LRR I 7,148) eyed Matrix (S4)	۷,	Dark Surface (S Polyvalue Belov Thin Dark Surfa Loamy Gleyed Depleted Matrix Redox Dark Su V Depleted Dark Redox Depress Iron-Manganes Umbric Surface Piedmont Flood Red Parent Ma	w Surface (Si ace (S9) (MLI Matrix (F2) c (F3) rface (F6) Surface (F7) sions (F8) e Masses (F- e (F13) (MLR. dplain Soils (I	7 <b>A 147, 148</b> 12) <b>(LRR N, A 136, 122)</b> 19) <b>(MLRA</b> MLRA 127, 1	MLRA 136) 148) 47)	2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	, 148)
	ayer (if observed):					Y		
Type: Depth (inc	ches):					Soil Pre		
oil Descripti	ion Remarks:	ets 1	-3					

11 7	FORM - Eastern Mountains and Piedmont Region
Project/Site: Hoponer to Khodis (	City/County: 20050 Sampling Date: 71812017
Applicant/Owner:	State: Sampling Point: W006
Investigator(s):	Section, Township, Range: LICK TWP .
Landform (hilslope, terrace, etc.):	Local relief (concave, convex, none): Slope (%)
Subregion (LRR or MLRA): Lat. 39, 08	
Soil Map Unit Name: OC-OVYVINC SITE IOAM, O+037.51	opes frequently Hooded NWI classification: NA
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks)
Are Vegetation $\boxed{\underline{10}}$ , Soil $\boxed{\underline{10}}$ , or Hydrology $\boxed{\underline{10}}$ significantly distu	
Are Vegetation $\ \underline{ igwedge igwedge igwedge igwedge} \ , or Hydrology \ \underline{ igwedge igwedge igwedge igwedge} \  naturally problen$	
SUMMARY OF FINDINGS - Attach site map show	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland?
Wetland Hydrology Present? Yes No V	
Remarks: Upland data point for wood	
Data and taken in maintai	ned transmission Row and between
Dodlo Politi	
PEM hietland and active hall	road tracks.
1 6 1 100	X 2
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (E	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odd	r (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizosphere	s on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Rem	
Iron Deposits (B5)	Geomorphic Position (D2) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspiration)	ections), if available
Remarks:	
Welland Hydrology Is not p	esent.
	- N
	1.71
	4 11

Tree Stratum

Herb Stratum

Woody Vine Stratum

nonc

(Plot size: 20)

Absolute Dominant Indicator

= Total Cover

= Total Cover

= Total Cover

= Total Cover

Status

) % Cover Species?

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

Upland veg is dominant

Soil Profile Description: (Describe to t	he depth n	eeded to document th	ne indicator o	r confirm th	e absence	of indicators.)
Depth Matrix (inches) Color (moist)  O - 8 IOYR + 2	% 100	Color (moist)	Redox Featur %	es Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks Sittleam gravel & 8"
<sup>1</sup> Type: C=concentration, D=Depletion, R	M=Reduce	d Matrix, MS=Masked	Sand Grains.			<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:  Histosol (A1)		Dark Surface (S	7)			Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)		Polyvalue Below Thin Dark Surfa Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi Iron-Manganese Umbric Surface Piedmont Flood Red Parent Mat	v Surface (S8) ce (S9) (MLR. Matrix (F2) (F3) face (F6) Surface (F7) ons (F8) Masses (F12) (F13) (MLRA plain Soils (F1 erial (F21) (MI	2) (LRR N, M 136, 122) 9) (MLRA 14 LRA 127, 141	LRA 136) 48) 7)	Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
<sup>3</sup> Indicators of hydrophytic vegetation Restrictive Layer (if observed):	and wetlar	nd hydrology must be p	resent, unles	s disturbed o	r problema	tic.
Type: Depth (inches):					Hydri Soil Pres	
Soil Description Remarks:	sample	taken ne	xt to	Rail	road	tracks gravel below

WETLAND DETERMINATION DATA FORM - Easter	n Mountains and Piedmont Region
Project/Site: Happing to Rhodes City/County: Jac	(KS(Y) (U) Sampling Date:718/2017
Applicant/Owner:	State: OH Sampling Point: W008 (PEM)
Investigator(s): Section, Tow	nship, Range: Lick Twp
	cave, convex, none): COY COVC Slope (%)
Subregion (LRR or MLRA): Lat: 39, 081 022 74	Lopg: -82,58411508 Datum: NAD 83
Soil Map Unit Name: Or Orriville 5 It from 0 to 7 Stops + requirements (hydrologic good litera on the cite typical for this time of year?	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year? Yes $\downarrow$ Are Vegetation $\upbeta \upbeta \upbe$	No (If no, explain in Remarks)  Are "Normal Circumstances" present? Yes No
Are Vegetation $\Omega$ , Soil $\Omega$ , or Hydrology $\Omega$ asymmetric significantly distributed?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling poi	
Hydrophytic Vegetation Present? Yes No	Avec within a Westered 2
	Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Wetland data point for woos - PEM-CA	ΓΙ.
Data point taken in maintained transmission	n Rowandat bottom of pond
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)  Surface Water (A1)  True Aquatic Plants (B14)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  / Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)  Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	/ Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes / No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Welland hydrology Indicators are Alf	A3, C3, D2 and D5:

Tree Stratum  1. NMC	(Plot size: 30	) _% Cover	Species? Status	Number of Dominant Species That Are  OBL, FACW, or FAC:  (A)
				Total Number of Dominant Species Across All Strata:  (B)
s				Percent of Dominant Species That Are OBL, FACW, or FAC:
6	(Plot size: 15		= Total Cover	Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =           FACU species         x 4 =           UPL species         x 5 =           Column Totals:         (A)           (B
erb Stratum  1 Carex lurida 2 Juneus CHUS 3 Turba X Alau	(Plot size: 51 us uca per foliatum	35 20 55 5	= Total Cover  Tach  Fach  Obl	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Vegetation Strata:  Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in
oody Vine Stratum	(Plot size: 30		= Total Cover	diameter.  Sapling/Shrub- Woody plants, excluding vines, less than 3 in DBH and greater than or equal to 3.28 ft (1 m) tall  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody Vines - All woody vines greater than 3.28 ft in
4 5. 6.			= Total Cover	Hydrophytic Vegetation Present? Yes \( \sumbox{No} \)

Depth Matrix		Redox Featu	res				
(inches) Color (moist)	% Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-16 104R412 8	0 104R416	20		PL	Clayloum		
		-		-			
	-		-				
			-	-			
Type: C=concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked	Sand Grains.			<sup>2</sup> Location: PL=Pore L		
Hydric Soil Indicators:					Indicators for Proble	matic Hydric Soils <sup>3</sup> :	
Histosol (A1) Histic Epipedon (A2)	Dark Surface (		) (MLRA 14	7, 148)	2 cm Muck (A10 Coast Prairie Re	) (MLRA 147) dox (A16) (MLRA 147, 148)	
Black Histic (A3)		Polyvalue Below Surface (S8) (MLRA 147, 148) Thin Dark Surface (S9) (MLRA 147, 148)			Piedmont Floodplain Soils (F19)		
Hydrogen Sulfide (A4)	Loamy Gleyed		,,		(MLRA 136, 147)		
Stratified Layers (A5)	Depleted Matrix				Very Shallow Dark Surface (TF12)		
2 cm Muck (A10) (LRR N)	Redox Dark Su				Other (Explain in Remarks)		
	Depleted Dark						
Depleted Below Dark Surface (A11)							
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N,	Redox Depress Iron-Manganes		2\	AI DA 136\			
MLRA 147,148)	Umbric Surface			MERKA 150)			
Sandy Gleyed Matrix (S4)	Piedmont Floor			148)			
Sandy Redox (S5)	Red Parent Ma						
Stripped Matrix (S6)	Red Falelit Wa	iteriai (FZ I) (W	LNA 121, 1-	• • •			
The little and the same							
<sup>3</sup> Indicators of hydrophytic vegetation an	d wetland hydrology must be	present, unles	s disturbed	or problema	atic.		
Restrictive Layer (if observed):  Type:				Hydr	ric		
Depth (inches):				Soil Pre		\/ No	
Deptii (inches).				3011110			
Soil Description Remarks:							
MACH	sF3						
10 ICC	5 1 0						

	V	ERMINATION DAT	A FORM - Eastern Mou	-		
Project/Site: HCDONEY	to Rhodes		City/County: Jacksov	10 s	ampling Date:	7
Applicant/Owner: AE	2				ampling Point: W008	UPL
Investigator(s):KLV			Section, Township, R.	ange: Lick Twp.		
Landform (hilslope, terrace, etc.):	Slope	20	Local relief (concave, co		Slope (%)_	01
Subregion (LRR or MLRA):	LRE	Lat 31.	Part Part	ong: -82.5838	1 1 I A	200
Soil Map Unit Name: UT-U	rrville Sitt 100				classification:	
		typical for this time of year			ain in Remarks)	
	no , or Hydrology			"Normal Circumstances" p		No
	nor Hydrology			needed, explain any answer		
2014114	TARY OF FINDINGS	- Attach site map sho	owing sampling point loca	tions, transects, impor	tant leatures, etc.	
Hydrophytic Vegetation Present	? Yes	No				,
Hydric Soil Present?	Yes	No 🗸	Is the Sampled Area wit	thin a Wetland?	Yes No	<u> </u>
Wetland Hydrology Present?	Yes	No				
Data pour	ata point Il taken II	for woos maintained	transmirsion	ROW		
HYDROLOGY						
Wetland Hydrology Indicat	tors:			Secondary Indicators	(minimum of two required)	
Primary Indicators (minimum of	one is required, check a	I that apply)		Surface Soil (	Cracks (B6)	
Surface Water (A1)		True Aquatic Plants	s (B14)	Sparsely Veg	etated Concave Surface (B8)	
High Water Table (A2)	100	Hydrogen Sulfide C		Drainage Pat		
Saturation (A3)			eres on Living Roots (C3)	Moss Trim Lines (B16)		
Water Marks (B1)	_	Presence of Reduc		Dry-Season Water Table (C2) Crayfish Burrows (C8)		
Sediment Deposits (B2)  Drift Deposits (B3)		Thin Muck Surface	tion in Tilled Soils (C6)		sible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	_	Other (Explain in R		-	ressed Plants (D1)	
Iron Deposits (B5)			,	Geomorphic I		
Inundation Visible on Ae	erial Imagery (B7)			Shallow Aquit	ard (D3)	
Water-Stained Leaves (	B9)			Microtopograp	phic Relief (D4)	
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)	
Field Observations:						
Surface Water Present?	Yes No	Depth (inches)	:			
Water Table Present?	Yes No	Depth (inches)				,
Saturation Present?	Yes No	Depth (inches)		and Hydrology Present?	Yes No	
(includes capillary fringe)	103 140	Deptir (inches)		ina riyarology r resent.		
Describe Recorded Data (stream	n gauge, monitoring well	, aerial photos, previous in	spections), if available:			
Remarks: Wetland h	ydrology is	s not present	te			

1 none	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A
3			Total Number of Dominant Species Across All Strata:  (B
5			Percent of Dominant Species That Are OBL_FACW, or FAC:  (A
apling/Shrub Stratum  Liniodendry tulipitora  Rubus alleghenicisis	5		Prevalence Index worksheet:           Total % Cover of:         Mulliply by:           OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =           FACU species         x 4 =           UPL species         x 5 =           Column Totals:         (A)
			Prevalence Index = B/A =  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation
erb Stratum  Leucanthe mum Vulgare  Erigeron annuus  Trifolium pratense  Achilica millefolium	5 5 10 5	= Total Cover  N Fall Y Facl N Facl	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Polystichum acrostichoides			Definitions of Vegetation Strata:  Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more diameter.  Sapling/Shrub- Woody plants, excluding vines, less than 3
nody Vine Stratum (Plot size: 30	30	= Total Cover	DBH and greater than or equal to 3.28 ft (1 m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall
			Woody Vines - All woody vines greater than 3 28 ft in height.
	0	= Total Cover	Hydrophytic Vegetation Present? Yes No

	trix	F	Redox Feature	S			9.94		
(inches) Color (moist	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
2-16 JOYR43	100					Silt			
					_	-			
					_				
Town Consumption Debate	tion DM-Dadward	Matrix MC-Marked C				21 ti DI	-Description M-Matrix		
Type: C=concentration, D=Deple	ion, Rivi=Reduced	Matrix, MS=Masked S	ano Grains.			Location: Pi	L=Pore Lining, M=Matrix.		
lydric Soil Indicators:						Indicators fo	or Problematic Hydric Soils <sup>3</sup> :		
Histosol (A1)		Dark Surface (S7	7)			2 cm Mu	uck (A10) (MLRA 147)		
Histic Epipedon (A2)		Polyvalue Below		(MLRA 147, 1	148)		rairie Redox (A16) (MLRA 147, 148)		
Black Histic (A3)		Thin Dark Surface	e (S9) (MLRA	147, 148)		Piedmo	nt Floodplain Soils (F19)		
Hydrogen Sulfide (A4)		Loamy Gleyed M	atrix (F2)			(MLRA	136, 147)		
Stratified Layers (A5)	1.5	Depleted Matrix	(F3)			Very Sh	allow Dark Surface (TF12)		
2 cm Muck (A10) (LRR N)		Redox Dark Surf	ace (F6)			Other (E	Explain in Remarks)		
Depleted Below Dark Surface	(A11)	Depleted Dark S	urface (F7)						
Thick Dark Surface (A12)		Redox Depression	ns (F8)						
Sandy Mucky Mineral (S1) (L	RR N,	Iron-Manganese	Masses (F12)	(LRR N, ML	RA 136)				
MLRA 147,148)		Umbric Surface (							
Sandy Gleyed Matrix (S4)		Piedmont Floodp							
Sandy Redox (S5)		Red Parent Mate	rial (F21) (ML	RA 127, 147)					
Stripped Matrix (S6)									
<sup>3</sup> Indicators of hydrophytic veg	etation and wetland	d hydrology must be pr	esent, unless	disturbed or	problemat	ic.			
estrictive Layer (if observed)	•								
					Hydric				
Type:	Depth (inches):				Soil Present? Yes No				
				- 19					
Туре:									
Type:  Depth (inches):									
Type:  Depth (inches):	C lan	ve not oves	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent_						
Type:  Depth (inches):	ric Soils a	re not pres	ent_						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						
Type:  Depth (inches):	ric Soils a	re not pres	ent						

WETLAND DETERMINATION DATA FORM - Easte	ern Mountains and Piedmont Region
Project/Site: Happing to Rhode City/County: Ja	4500 CO Sampling Date: 7/19/2017
Applicant/Owner:	State: OH Sampling Point: W009
	ownship, Range: LICK TIMP
	oncave, convex, none): Slope (%)
Subregion (LRR or MLRA): Lat. 391.080005108	Long: -82.56468391 Datum: NAD 83
Soil Map Unit Name: CNV-ULMCY Todm, 151025 7. Stopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?  Yes  Are Vegetation \( \backslash 0 \), Soil \( \backslash 0 \), or Hydrology \( \backslash 0 \) significantly disturbed?	No (If no, explain in Remarks)  Are "Normal Circumstances" present? Yes No
Are Vegetation 10, Soil 16, or Hydrology significantly disturbed?  Are Vegetation 10, Soil 10, or Hydrology naturally problematic?	(If needed, explain any answers in Remarks )
SUMMARY OF FINDINGS - Attach site map showing sampling p	
	, , , , , , , , , , , , , , , , , , , ,
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No Is the Sample	I Area within a Wetland? Yes V No
Wetland Hydrology Present? Yes No	
Data punt taken in maintained transmission	TMOD2.
Data point taken in maintained transmission	1 1 1040
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
✓ Saturation (A3)	C3) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Sediment Deposits (B2)  Recent Iron Reduction in Tilled Soils (C6	
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4) FAC-Neutral Test (D5)
Aquatic Fauna (B13)	PAG-Neuliai Test (D3)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches): \( \bullet \)	/
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	2:
Remarks:	3 D2 and D5
Wetland hydrology Indicators are A3AC	), VZ ala V 3
	0.44

			-	
/	TO	mg.	1	V
	×	$-\nu$	V.	1

Tree Stratum (F	Plot size: 30'	) <u>% Cover</u>	Species? Status	1
1 None				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				
3				Total Number of Dominant Species Across All Strata: (B
				10,
4				Percent of Dominant Species That Are
5			-	OBL, FACW, or FAC:
6				6 de la constantina della cons
7		- D	= Total Cover	Prevalence Index worksheet:  Total % Cover of: Multiply by:
			- Total Gover	OBL species x1 =
apling/Shrub Stratum (P	Plot size: 5	)		FACW species x 2 =
1 None				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (I
5				Prevalence Index = B/A =
6				Trevalence index B/A
8				Hydrophytic Vegetation Indicators:
9.				1 - Rapid Test for Hydrophytic Vegetation
0.				2 - Dominance Test is >50%
		0	= Total Cover	3 - Prevalence Index is ≤3.0¹
	<u>-1</u>	3.5		4 - Morphological Adaptations <sup>1</sup> (Provide supportin
1	Plot size: 5	- 25	V Ahl	data in Remarks or on a separate sheet)
2 Panicum Clandest	inum	5	Fac	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Mimulus alatus	THATTA	- 5	N OPT	Indicators of hydric soil and wetland hydrology must
4. Carex Jurida		25	V Obl	be present, unless disturbed or problematic.
5. Impatiens capensi	5	15	N Fack	Definitions of Vegetation Strata:
6.			1 2 2 2 2 2 2 2	
7,				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more
В			السناوت	diameter.
9.				
0			-	
1				Sapling/Shrub- Woody plants, excluding vines, less than 3 i DBH and greater than or equal to 3.28 ft (1 m) tall.
		85	= Total Cover	, , , , , , , , , , , , , , , , , , , ,
	201			Herb - All herbaceous (non-woody) plants, regardless
	Plot size: 301	)		of size, and woody plants less than 3.28 ft tall
1. NONC				
2		-,		Woody Vines - All woody vines greater than 3.28 ft in
4				height.
5				
6				
		0	= Total Cover	
				Hydrophytic
				Vegetation Present? Yes No
				resent tes no

	Depth Matrix				ıres				
(inches)	Color (moist)	%	Color (moist)	Redox Featu	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks		
0-4	10 VR 412	100					Siltloam		
4-110	IOVRSII	80	104R460	20	C	PL	Clayloam		
1 10	10 111 011	-00	10 fix ito				S Inc.   Inc.		
-	-	-	-		-				
					$\leftarrow$	-			
		-				-			
						_			
		-		-		-			
		_		_	-	-	· <del></del>		
1- 0		DM D I			-	-	21 a cations DI - Dave Linium Mandatriu		
Type: C=conce	entration, D=Depletion,	, RM=Reduc	ed Matrix, MS=Masked	Sand Grains			<sup>2</sup> Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Ind	icators:						Indicators for Problematic Hydric Soils <sup>3</sup> :		
Histosol (A	(1)		Dark Surface (	S7)			2 cm Muck (A10) (MLRA 147)		
Histic Epip	•		Polyvalue Belo	w Surface (S	8) <b>(MLRA 1</b> 4	7, 148)	Coast Prairie Redox (A16) (MLRA 147, 148		
Black Histi			Thin Dark Surfa	ace (S9) (ML	RA 147, 148		Piedmont Floodplain Soils (F19)		
Hydrogen :	Sulfide (A4)		Loamy Gleyed	Matrix (F2)			(MLRA 136, 147)		
Stratified L	ayers (A5)		Depleted Matri	x (F3)			Very Shallow Dark Surface (TF12)		
2 cm Muck	(A10) (LRR N)		Redox Dark Su	ırface (F6)			Other (Explain in Remarks)		
Depleted E	Below Dark Surface (A	11)	Depleted Dark	Surface (F7)					
Thick Dark	Surface (A12)		Redox Depress	sions (F8)					
Sandy Mud	cky Mineral (S1) (LRR	N,	Iron-Manganes			MLRA 136)			
MLRA 147	,148)		Umbric Surface						
	yed Matrix (S4)		Piedmont Floor						
Sandy Red			Red Parent Ma	iterial (F21) (I	MLRA 127, 1	47)			
Stripped M	latrix (S6)								
<sup>3</sup> Indicators	of hydrophytic vegetat	ion and wetla	and hydrology must be	present, unle	ss disturbed	or problema	atic.		
Restrictive La	yer (if observed):					1			
Type:						Hydric			
Depth (inch						Soil Present? Yes // No			
Deptil (ilici	163).					Contro	700 <u> </u>		
	on Remarks:		3		1				

WETLAND DETERMINATION DATA FORM - Eastern Mou	ntains and Piedmont Region
Project/Site: Happing to Rhodes City/County: Jackson	Sampling Date: 7/19/2017
11 4+0	State: OH Sampling Point: W009 - UPL
	ange: LICK TWP.
Landform (hilslope, terrace, etc.): Local relief (concave, co	nvex, none): CMVCX Slope (%) 51
Subregion (LRR or MLRA): Lat: 39.07995458 Lo	ong: -82,56470673 Datum: NAD 83
Soil Map Unit Name: ChD-Clymer loam, 15 to 25% Slopes	NWI classification: NA
Are climatic/hydrologic conditions on the site typical for this time of year?	No (If no, explain in Remarks)
Are Vegetation $\underline{ND}$ , Soil $\underline{ND}$ , or Hydrology $\underline{ND}$ significantly disturbed?	"Normal Circumstances" present? Yes No
	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point local	tions, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No /	
Hydric Soil Present? Yes No Is the Sampled Area wit	thin a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Vpland data pant for woos	
Data point taken in maintained transmission R	0W ·
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)  True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
	and Hudrologu Propert? Vec No 1
Saturation Present? Yes No Depth (inches): Wetla (includes capillary fringe)	and Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
,,	
Remarks:	
Wetland hydrology is not present	
is a narot require edge to not proserve	

Tree Stratum (Plot size: 30'	Absolute ) % Cover		Number of Dominant Species That Are OBL. FACW, or FAC:  (A)
3			Total Number of Dominant Species Across All Strata:  (B)
5	-		Percent of Dominant Species That Are OBL FACW, or FAC:
6	0	= Total Cover	Prevalence Index worksheet:  Total % Cover of: Multiply by:
apling/Shrub Stratum  1. Liniodendron Julipher 1	1 5	VI Facti	OBL species
2 Fagus granditolia 3 Lindera benzoin	10	Facu	FAC species
4			Column Totals: (A) (B
6			Prevalence Index = B/A =
9			1 - Rapid Test for Hydrophylic Vegetation 2 - Dominance Test is >50%
Herb Stratum (Plot size: 51		≃ Total Cover	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
2			Indicators of hydric soil and wetland hydrology must
4	-		be present, unless disturbed or problematic.  Definitions of Vegetation Strata:
7			Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more diameter.
11	0	= Total Cover	Sapling/Shrub- Woody plants, excluding vines, less than 3 in DBH and greater than or equal to 3.28 ft (1 m) tall
Voody Vine Stratum (Pigt size: 30)	) (		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall
2 Parthenocissus quinquetolia	15	Fact	March Mines All west video greater they 2.20 ft in
3,			Woody Vines - All woody vines greater than 3.28 ft in height.
6,	30	= Total Cover	
			Hydrophytic Vegetation Present? Yes No
/egetation Remarks: (Include photo numbers here or on a separat	te sheet).		
Upland veg is domina	int.		
O			

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Depth	Matrix			Redox Featu				
(inches) )-\(\(\beta\)	Color (moist) 104R 413	100	Color (moist)	% 	Type <sup>1</sup>	Loc <sup>2</sup>	Texture SiH	Remarks
ype: C=conc	entration, D=Depletion,	RM=Reduced	Matrix, MS=Masked	Sand Grains.			<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.
lydric Soil Ind	licators:						Indicators for Prob	elematic Hydric Soils <sup>3</sup> :
Histosol (A1) Histic Epipedon (A2) Polyvalue Below Surface (S9) (M Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3)  2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147,148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)  Dark Surface (S7) Redox Dark Surface (F6) Depleted Dark Surface (F6) Iron-Manganese Masses (Murch 147,148) Piedmont Floodplain Soils Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6)				w Surface (S8 ce (S9) (MLF Matrix (F2) ce (F3) ce (F6) Gurface (F7) ce Masses (F1 (F13) (MLR Applain Soils (Ferial (F21) (M	2) (LRR N, M 136, 122) 19) (MLRA 14 LRA 127, 14	LRA 136) 48) 7)	Coast Prairie I Piedmont Floo (MLRA 136, 14 Very Shallow I Other (Explain	Dark Surface (TF12)
Type: Depth (incl	yer (if observed):					Hydr Soil Pre		No
oil Descriptio	on Remarks:	drics	oils are v	not pro	esent			

The state of the s	FORM - Eastern Mountains and Piedmont Region
Project/Site:	City/County: Sampling Date: 11917017
Applicant/Owner:	State: Sampling Point: W010
Investigator(s):	Section, Township, Range: COUTUY
Landform (hilslope, terrace, etc.):	Local relief (concave, convex, none): Slope (%)
Subregion (LRR or MLRA): Lat: 39.00	053068 Long: -82,5506928 Datum: NAD 83
Soil Map Unit Name: Wyd 3D2 Wyatt Sitty Clay loam	NWI classification:
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks)
Are Vegetation 10, Soil 10, or Hydrology significantly dist	
Are Vegetation 10, Soil 10, or Hydrology 10 naturally proble	
SUMMARY OF FINDINGS - Attach site map show	ring sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland?
Wetland Hydrology Present? Yes No	
Data point was taken in maintain	-PEM-CATMODZ
The state of the s	
Dala mint was taken in mainta	inco transmission Row.
Dated botter tooks too	1017110014111111
HADDOLOGA	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)  True Aquatic Plants (	
High Water Table (A2)  Hydrogen Sulfide Od  Oviding (A3)	
✓ Saturation (A3)	es on Living Roots (C3) Moss Trim Lines (B16)  I Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2)  Recent Iron Reduction	
Drift Deposits (B3)  Thin Muck Surface (C	
Algal Mat or Crust (B4)  Other (Explain in Rer	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes √ No Depth (inches):	.5"
Water Table Present? Yes V No Depth (inches):	1/1/+
	Wetland Hydrology Present? Yes No
Saturation Present? Yes No Depth (inches):  (includes capillary fringe)	Wetland Hydrology Present? Yes V No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	pections) if available:
Describe Necorded Data (stream gauge, monitoring well, dental prioros, previous map	Controlly, il available.
Remarks:	2
hemains.	ave AIRA3, C3, D2, and D5.
wetland hydrology marachers	CIPC AIRAS, CS, DZ, and CS.
. •	

4	ve.		-	
r	-	20mg	h	A.
	3~	7-1	V.V	- 1
1	ж.	100	- 1	1

ree Stratum (Plot size: 30)	Absolute	Dominant Indicator Species? Status	Dominance Test worksheet:
ee Stratum (Plot size:	) <u>% Cover</u>	Species? Status	Number of Dominant Species That Are
Toric			OBL, FACW, or FAC:
			Total Number of Dominant Species
			Across All Strata:
			Percent of Dominant Species That Are OBL, FACW, or FAC:
			UBL, FACVV, OF FAC.
	-		Prevalence Index worksheet:
	0	= Total Cover	Total % Cover of: Multiply by:
		- 1018100461	OBL species x 1 =
oling/Shrub Stratum (Plot size: 5	)		FACW species x 2 =
none			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
			Column Totals: (A)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3 0 <sup>1</sup>
5			4 - Morphological Adaptations <sup>1</sup> (Provide suppo
Stratum (Plot size: 5)	—) F	NI NA	data in Remarks or on a separate sheet)
Eupaterium perfoliatum	15	1 001	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
LEUSIA GOYZOIDES	一支台	- Factor	Indicators of hydric soil and wetland hydrology must
Camy livida	75	1 001	be present, unless disturbed or problematic
Impatiens ca pensis	15	N Fach	Definitions of Vegetation Strata:
Scirpus cuperinus		N Facw	Definitions of Vegetation Strata.
sell pas egpa mus		TOCO	- 111
			Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or mo diameter
			Sapling/Shrub- Woody plants, excluding vines, less than
			DBH and greater than or equal to 3.28 ft (1 m) tall.
	100	= Total Cover	
		4	
22			Herb - All herbaceous (non-woody) plants, regardless
dy Vine Stratum (Plot size: 30)	)		of size, and woody plants less than 3.28 ft tall
nome	_		
	$\overline{}$		Woody Vines - All woody vines greater than 3 28 ft in
			height.
	7	= Total Cover	
		- rotal Gover	
			Hydrophytic
		13	Vegetation
			Present? Yes No
etation Remarks: (Include photo numbers here or on a sep	parate sheet).		
Midwall die en en de	- LA -	DOSTOC +	ne dominance test and
Hydrophytic veg 15 don	MAIL	200000	
J		rapid +	ST
		- shirt	

Depth	Matrix			Redox Featur	20			
(inches)	Color (moist)	%	Color (majst)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-110	10UR4/2	75	1042416	25	(,	DI	Claylodm	
O ICD	with		TOTALO	90			Stocy touris	
			-	-				
		-						
		-				_		
		-		-		-		
5 2 5 6 27 1 1 2					_	-		
Type: C=concer	ntration, D=Depletion, I	RM=Reduce	d Matrix, MS=Masked	Sand Grains.			<sup>2</sup> Location: PL=Pore Lir	ning, M=Matrix.
lydric Soil Indic	cators:						Indicators for Problem	natic Hydric Soils³:
Histosol (A1	1)		Dark Surface (S	(7)			2 cm Muck (A10)	(MLRA 147)
Histic Epipe	•	Polyvalue Below Surface (S8) (MLRA 147, 148)					ox (A16) (MLRA 147, 148)	
Black Histic (A3)			Thin Dark Surface (S9) (MLRA 147, 148)				Piedmont Floodpla	
Hydrogen S	Julfide (A4)		Loamy Gleyed N				(MLRA 136, 147)	
Stratified La			✓ Depleted Matrix				Very Shallow Dark	Surface (TF12)
2 cm Muck	(A10) (LRR N)		Redox Dark Sur				Other (Explain in I	Remarks)
Depleted Be	elow Dark Surface (A11	1)	Depleted Dark S				7	
Thick Dark	Surface (A12)		Redox Depressi					
Sandy Muck	ky Mineral (S1) (LRR N	,	Iron-Manganese	Masses (F12	2) (LRR N, I	MLRA 136)		
MLRA 147,1	148)		Umbric Surface	(F13) (MLRA	136, 122)			
	ed Matrix (S4)		Piedmont Flood					
Sandy Redo			Red Parent Mate	erial (F21) (M	LRA 127, 1	47)		
Stripped Ma	trix (S6)							
<sup>3</sup> Indicators c	of hydrophytic vegetation	n and wetlar	nd hydrology must be p	resent, unles	s disturbed	or problema	tic.	
estrictive Lay	er (if observed):							
Type:						Hydr	ic	,
	es):					Soil Pre	sent? Yes	No
Depth (inche								
Depth (inche		M. I		-				
	n Remarks:		-0					
Depth (inche	n Remarks:	A I						
	n Remarks:	cts F	つ.					
	n Remarks:	cts F	・つ.					
	n Remarks:	cts F	-つ.					
	n Remarks:	cts F	· 力.					
	n Remarks:	cts F						
	n Remarks:	cts F	· • • • • • • • • • • • • • • • • • • •					
	n Remarks:	cts F						
	n Remarks:	cts F						
	n Remarks:	cts F						
	n Remarks:	cts F						

WETLAND DETERMINATION DATA FORM - Eastern Mour	ntains and Piedmont Region
Project/Site: HCDDMC/ +KMYCS City/County: JackScm	Sampling Date: 7/19/2017
TATE	State: OH Sampling Point: W010 - UPL
Investigator(s): Section, Township, Ra	
Landform (hilslope, terrace, etc.): Local relief (concave, cor	C.I
Subregion (LRR or MLRA):	ng: -82,55059478 Datum: NAD 83
Soil Map Unit Name: Wya 3D2 - Wyatt Silty clay loam, 12 to 18% Slope	S NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	No (If no, explain in Remarks)
Are Vegetation $\underline{NO}$ , Soil $\underline{NO}$ , or Hydrology $\underline{NO}$ significantly disturbed?	"Normal Circumstances" present? Yes No
Are Vegetation 10, Soil 10, or Hydrology 10 naturally problematic? (If no	eeded, explain any answers in Remarks )
SUMMARY OF FINDINGS - Attach site map showing sampling point locate	ions, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No V Is the Sampled Area with	nin a Wetland? Yes No
	The visitation
Wetland Hydrology Present? Yes No	
Deland data point for woro.	
opially daily pointy to wor.	
a la la Van in monitorina transmiss	in ROW.
Data point was taken in maintained transmiss	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required, check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)  Recent Iron Reduction in Tilled Soils (C6)  This Music Surface (C7)	Crayfish Burrows (C8)
Drift Deposits (B3)  Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Other (Explain in Remarks)	Stunted or Stressed Plants (D1)  Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aguitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations	
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
	nd Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	
Remarks:	
Wetland hydrology is not present.	
	711
	1.11

Sampling Point: W010

Number of Dominant Species That Are OBL_FACW, or FAC:  Total Number of Dominant Species Across All Strata!  Percent of Dominant Species That Are OBL_FACW, or FAC:  OBL_FACW, or FAC:  Total % Cover of:  Multiply by: OBL species  x 1 = FACW species  x 2 = FAC species  x 3 = FACU species  x 4 = UPL species  x 5 = Column Totals:  (A)  Prevalence Index = B/A =  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹
Total Number of Dominant Species   2
Across All Stratal  Percent of Dominant Species That Are CBL. FACW, or FAC:  (A/I  Prevalence Index worksheet:  Total % Cover of:  Multiply by:  OBL species  x 1 =  FACW species  x 2 =  FAC species  x 3 =  FACU species  x 4 =  UPL species  x 5 =  Column Totals:  (A)  (E)  Prevalence Index = B/A =  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%
Across All Stratal  Percent of Dominant Species That Are CRL. FACW, or FAC:  (A)  Prevalence Index worksheet:  Total % Cover of:  Multiply by:  OBL species  x 1 =  FACW species  x 2 =  FAC species  x 3 =  FACU species  x 4 =  UPL species  x 5 =  Column Totals:  (A)  (B)  (A)  (C)  (A)
Prevalence Index worksheet:           Total % Cover of:         Multiply by:           OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =           FACU species         x 4 =           UPL species         x 5 =           Column Totals:         (A)           (B)         (B)           Prevalence Index = B/A =           Hydrophytic Vegetation Indicators:           1 - Rapid Test for Hydrophytic Vegetation           2 - Dominance Test is >50%
CBL FACW, or FAC:         (A/           Prevalence Index worksheet:
Prevalence Index worksheet:
Total % Cover of:
Total % Cover of:
OBL species
FACW species
FAC species
FACU species
UPL species x 5 = Column Totals: (A) (I  Prevalence Index = B/A = Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
Column Totals: (A) (I  Prevalence Index = B/A =  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
Prevalence Index = B/A =  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%
Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0
4 - Morphological Adaptations <sup>1</sup> (Provide supporting
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
Definitions of Vegetation Strata:
Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more
diameter
Sapling/Shrub- Woody plants, excluding vines, less than 3 in DBH and greater than or equal to 3,28 ft (1 m) tall.
DBH and greater than or equal to 3 28 it (1 iii) tail.
Herb - All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody Vines - All woody vines greater than 3 28 ft in
height.
Hydrophytic
Vegetation
Present? Yes No V

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Soil Profile De	escription: (Describe to	the depth r	eeded to document	the indicator	or confirm th	e absence	of indicators.)	
Depth	Malrix			Redox Featur				
(inches)	Color (mojst)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	104R 412	100					Sittleam	
10-10	104K43	100					Sittloam	
+		-			-			
-								
			_					
_		_		_		_		
¹Type: C=conc	centration, D=Depletion,	PM-Paduce	d Matrix MS=Masker	I Sand Grains			<sup>2</sup> Location: PL=Pore Li	ning M=Matrix
		rivi-reduce	d Manix, MO-Masket	Todilo Gialis.				
Hydric Soil Inc	dicators:						Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (	A1)		Dark Surface (	S7)			2 cm Muck (A10)	(MLRA 147)
Histic Epi	pedon (A2)		Polyvalue Belo	w Surface (S8	) (MLRA 147	, 148)	Coast Prairie Red	lox (A16) (MLRA 147, 148)
Black Hisl			Thin Dark Surf	ace (S9) (MLR	A 147, 148)		Piedmont Floodp	ain Soils (F19)
Hydrogen	Sulfide (A4)		Loamy Gleyed	Matrix (F2)			(MLRA 136, 147)	
	Layers (A5)		Depleted Matri				Very Shallow Dar	
	k (A10) (LRR N)		Redox Dark Su				Other (Explain in	
	Below Dark Surface (A1	1)	Depleted Dark					,,
	k Surface (A12)	.,	Redox Depress	•				
	icky Mineral (S1) (LRR N	۷.	Iron-Manganes		2) (LRR N. M	LRA 136)		
MLRA 14		-,	Umbric Surface			,		
	eyed Matrix (S4)		Piedmont Floo			48)		
Sandy Re			Red Parent Ma					
	Matrix (S6)					,		
			46.4010000000			- carbination	à.	
	s of hydrophytic vegetation	on and wetta	na nyarology must be	present, unies	s disturbed o	r problema	UG.	
	ayer (if observed):							
Type:						Hydri	С	
Depth (inc	hes):					Soil Pres	sent? Yes _	No
Soil Descripti	on Remarks:							
	11		1_					
	HYC	1110 2	oils not pr	resent.				
			1					

# APPENDIX C Primary Headwater Habitat Evaluation (HHEI) Data Forms



П

DATE TITIZOTT SCORER KLV	RIVER BASIN SUBTO PRIVER CODE RIVER MILE
STREAM CHANNEL MONE / NATURE MODIFICATIONS:	RAL CHANNEL  RECOVERED  RECOVERING  RECENT OR NO RECOVERY
(Max of 40). Add total number of significant	(A) 12 (B) 3 (A + B)
	mum pool depth within the 61 meter (200 ft) evaluation reach at the time of alverts or storm water pipes) (Check ONLY one box):    > 5 cm - 10 cm [15 pts]
3. BANK FULL WIDTH (Measured as the average of the second	> 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts] Width    \( \leq 1.0 m \) (\( \leq 3'3" \) [5 pts]
RIPARIAN ZONE AND FLOODPLA	This Information <u>must</u> also be completed IN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆
RIPARIAN WIDTH  L R (Per Bank)  Wide >10m	FLOODPLAIN QUALITY  L R (Most Predominant per Bank) L R  Mature Forest, Wetland Conservation Tillage  Immature Forest, Shrub or Old Urban or Industrial
Narrow <5m  None  COMMENTS	Residential, Park, New Field
FLOW REGIME (At Time of Evaluate Stream Flowing Subsurface flow with isolated pools (COMMENTS	Moist Channel, isolated pools, no flow (Intermittent)
☐ None 🔀	61 m (200 ft) of channel) (Check <i>ONLY</i> one box): 1.0
STREAM GRADIENT ESTIMATE  Flat to 5 ft/100 ft)  Figure 10 ft/100	☐ Moderate (2 tr/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

DDITIONAL STREAM INFORMATION (This Information Must Also	be Completed):
QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	0:1-5
	Distance from Evaluated Stream UMIUS
	Distance from Evaluated Stream
J EWH Name:	Distance from Evaluated Stream
114 1 114	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
ounty: Jackson Co. Townsh	hip/city. Coalo Lick Twp.
MISCELLANEOUS	10.70
lase Flow Conditions? (Y/N) Date of last precipitation:	0/20/1 Quantity: , 25
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 80 /	_
vere samples collected for water chemistry? (Y/N): (Note lab	sample no or id and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, p	please explain:
additional comments/description of pollution impacts:	
ID number. Include appropriate field data ish Observed? (Y/N) Voucher? (Y/N) Salamanders Obrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquation comments Regarding Biology.  DRAWING AND NARRATIVE DESCRIPTION	collections optional. NOTE: all voucher samples must be labeled with the site sheets from the Primary Headwater Habitat Assessment Manual)  Diserved? (Y/N)  Voucher? (Y/N)  V
LOW Culver ()	
(esidential	THE STATE OF THE S
	1+41

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SITE NAMELOCATION AREP - HCPPN(r + Khodes S003) SITE NUMBER RIVER BASIN LENGTH OF STREAM REACH (n) 200 LAT39.083315 LONG BOATE 7 18 2017 SCORER KLV COMMENTS SOLV NOTE: Complete All Items On This Form - Refer to "Field Evaluation"	-KLV-003 (EPH)
	RED RECOVERING RECENT OR NO RECOVERY
	8). Final metric score is sum of boxes A & B.  PERCENT  Metric
22.5 - 30 cm [30 pts] 2 < 5 cm	## meter (200 ft) evaluation reach at the time of (Check ONLY one box):  ## 10 cm [15 pts]  ## 15 pts]  WATER OR MOIST CHANNEL [0 pts]  MAXIMUM POOL DEPTH (centimeters):
	(Check ONLY one box): m - 1.5 m (> 3 3" - 4" 8") [15 pts] lm (< 3 3") [5 pts]  AVERAGE BANKFULL WIDTH (meters)
RIPARIAN WIDTH  (Per Bank)  Wide >10m  Mature Forest, Weth  Immature Forest, Streed  None  COMMENTS  FLOW REGIME (At Time of Evaluation)  Stream Flowing  Subsurface flow with isolated pools (Interstitial)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel)  (Check ONLY one box):  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel)	ter Left (L) and Right (R) as looking downstream from the Bank)  L R  Conservation Tillage  Tub or Old  Urban or Industrial  Open Pasture, Row  Crop  Mining or Construction  Moist Channel, isolated pools, no flow (Intermittent)  Dry channel, no water (Ephemeral)
None 0.5 1.0 1.5  STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft)	2.0

DDITIONAL STREAM INFORMATION (This I	nformation Must Also be Com	pleted):	
QHEI PERFORMED? - Tyes	No QHEI Score(If	Yes, Attach Completed QHEI	Form)
DOWNSTREAM DESIGNATED USE  WWH Name:  CWH Name:	1 1	Distance from Eve	
MAPPING: ATTACH COPIES OF MAP			
USGS Quadrangle Name: Wellston			
county. Jackson Co.	Township / City	. Coal lup.	
MISCELLANEOUS			
Base Flow Conditions? (Y/N): Date of	last precipitation: 7\0/20	)17 Quantity: . 2	<u>5</u>
Photograph Information:	501		
Elevated Turbidity? (Y/N): Cano	py (% open):		
Were samples collected for water chemistry? (Y.	/N): Note lab sample i	no. or id. and attach results) Le	b Number:
	ed Oxygen (mg/l) pl		
Is the sampling reach representative of the strea	am (Y/N) If not, please ex	rplain:	
Performed? (Y/N): (If Yes, Record at ID number. Inclu Fish Observed? (Y/N) Voucher? (Y/N) Vouc Comments Regarding Biology:	de appropriate field data sheets fi	om the Primary Headwater Hab	Ν
DRAWING AND NARRATIN	AE DESCRIPTION OF ST	DEAM DEACU /This m	uist he completed).
Include Important landmarks and other			
(Forest )	Mairtain Transmis	N.	30
FLOW			
(33)			Fore
			0

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LENGTH OF STREAM REACH (1) 200  DATE 18 201 SCORER 10 NOTE: Complete All Items On This Fo	LAT39.083310 LONG: 82.600449 R COMMENTS SOH - KLV -	or Ohio's PHWH Streams" for Instructions
SUBSTRATE (Estimate percent of e		PERCENT  OY DEBRIS [3 pts]  3 pts]  W [0 pt]  HHEI Metric Points  Substrate Max = 40
		Y one box): Max = 30
3. BANK FULL WIDTH (Measured as the second s	□ >1.0 m -1.5 m (> □ ≤1.0 m (≤ 3.37) [5	Bankfull Width (meters)  Bankfull Width Max=30
RIPARIAN ZONE AND FLOOD		ted d Right (R) as looking downstream\$
RIPARIAN WIDTH  (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  None	FLOODPLAIN QUALITY  L. R. (Most Predominant per Bank)  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture	L R Conservation Tillage Urban or Industrial Open Pasture, Row Crop
COMMENTS	raluation) (Check ONLY one box):	Mining or Construction  nnel, isolated pools, no flow (Intermittent) el, no water (Ephemeral)
SINUOSITY (Number of bends None 0.5  STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	per 61 m (200 ft) of channel) (Check ONLY one 1.0	3.0 >3

QHEI PERFORMED? - 1 J Yes DALNO QHEI Score (If )	Yes, Attach Completed QHEI Form)
Control of the Contro	, , , , , , , , , , , , , , , , , , , ,
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream 0.31 miles
WWH Name: Sugar Kun	Distance from Evaluated Stream O. D. 11119
	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATE	ERSHED AREA. CLEARLY MARK THE SITE LOCATION
	oil Map Page: NRCS Soil Map Stream Order
ounty: Jacks Co. Township / City:	('oal lup
MISCELLANEOUS	2511
sase Flow Conditions? (Y/N): Date of last precipitation:	Quantity: 125
notograph Information:	
evated Turbidity? (Y/N): N Canopy (% open): 40/.	
fere samples collected for water chemistry? (Y/N): (Note lab sample no	o. or id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH	
the sampling reach representative of the stream (Y/N)	plain:
BIOTIC EVALUATION  erformed? (Y/N):	s optional. NOTE: all voucher samples must be labeled with the site
erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the collections of the collections	om the Primary Headwater Habitat Assessment Manual)  (Y/N) \(\sqrt{\sqrt{N}}\)
reformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroin	om the Primary Headwater Habitat Assessment Manual)  (Y/N) \(\sqrt{\sqrt{N}}\)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the Collections of th	om the Primary Headwater Habitat Assessment Manual)  (Y/N) \(\sqrt{\sqrt{N}}\)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroin ornments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STE	m the Primary Headwater Habitat Assessment Manual)  (Y/N) \( \sqrt{N} \) \( \sqrt{V} \) \( \sqrt
Performed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the collections of the collectio	with Primary Headwater Habitat Assessment Manual)  (Y/N) \( \frac{1}{2} \) Voucher? (Y/N) \(
erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroin ornments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STE	with Primary Headwater Habitat Assessment Manual)  (Y/N) \( \frac{1}{2} \) Voucher? (Y/N) \(
erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the shoot of the	with Primary Headwater Habitat Assessment Manual)  (Y/N) Voucher?
erformed? (Y/N): (if Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroin comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STEInclude Important landmarks and other features of interest for site evaluations.	with Primary Headwater Habitat Assessment Manual)  (Y/N) Voucher?
erformed? (Y/N): (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the programment of the programmen	with Primary Headwater Habitat Assessment Manual)  (Y/N) Voucher?
erformed? (Y/N):  (If Yes, Record all observations. Voucher collections ID number. Include appropriate field data sheets from the shoots of th	with Primary Headwater Habitat Assessment Manual)  (Y/N) Voucher?

June 20, 2008 Revision

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DATE 7 18 2017 SCORER KLV	RIVER BASIN SCIOLO RIVER DRAINAGE AREA (mi²) 0.075  LAT 31.08335 HLONG 82.400387 RIVER CODE RIVER MILE	-
STREAM CHANNEL NONE / NONE / NONE / N	NATURAL CHANNEL   RECOVERED   RECOVERING   RECENT OR NO RECOVERY	
		tric nts
	e maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of road culverts or storm water pipes) (Check ONLY one box):  > 5 cm - 10 cm [15 pts]  < 5 cm [5 pts]  NO WATER OR MOIST CHANNEL [0 pts]  MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the second s	he average of 3-4 measurements) (Check ONLY one box):  > 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts]  \$\frac{4}{3}\$ \text{ (S of S of S)}\$ \text{ (Maxeuments)}  AVERAGE BANKFULL WIDTH (meters)	th
RIPARIAN ZONE AND FLOOI RIPARIAN WIDTH (Per Bank) Wide >10m	FLOODPLAIN QUALITY  L. R. (Most Predominant per Bank)  Mature Forest, Wetland  Conservation Tillage	
☐ Moderate 5-10m ☐ Narrow <5m ☐ None COMMENTS	Urban or Industrial   Urban or Industrial	
Stream Flowing Subsurface flow with isolated po	(Check ONLY one box):  Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)	
SINUOSITY (Number of bends None 0.5  STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)  Flat to Moderate	Sper 61 m (200 ft) of channel) (Check ONLY one box):  1.0	

	Completed):
QHEI PERFORMED? - Yes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: SLAUP SUY	Distance from Evaluated Stream 0.31 miles
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIR	E WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  RCS Soil Map Page: NRCS Soil Map Stream Order
lacture Ca	A 1-
	/divdelt_toop
MISCELLANEOUS	0/2017 Quantity: .25"
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity: -23
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 15/	
Were samples collected for water chemistry? (Y/N): (Note lab sai	mple no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, plea	ase explain:
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Machiner Regarding Biology:	facroinvertebrates Observed? (Y/N) Voucher? (Y/N)
	te evaluation and a narrative description of the stream's location
	A Company of the Comp

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LENGTH OF STREAM REACH (A) DATE 7 18 20 7 SCORER	KLVCOMM	RIVER BASIN SCIOTO RI 1945 LONG 82.598937 R MENTS SOH-KLV	006 (EPH)	LE
A SECURE NAME AND DESCRIPTIONS OF THE PERSON	THE RESERVE OF THE PARTY OF THE		or Ohio's PHWH Streams" for	
	ber of significant substrate ty  PERCENT  [16 pts]  [12 pts]  [25  [20  of Bedrock 10	pes found (Max of 8). Final metr TYPE SILT [3 pt] LEAF PACKAWOOD FINE DETRITUS (1) CLAY OF HARDAN MUCK [0 pts] ARTIFICIAL [3 pts)	PERCENT PY DEBRIS [3 pts]	HHEI Metric Points Substrate Max = 40
		mwater pipes) (Check ONL)  >5 cm - 10 cm [15  < 5 cm [5 pts]  NO WATER OR M		Pool Depth Max = 30
3. BANK FULL WIDTH (Meas > 4.0 melers (> 13) [30 pts]   > 5.0 m = 4.0 m (> 9.7 - 13)   > 1.5 m = 3.0 m (> 4.8 - 9.7 COMMENTS	ured as the average of 3-4 [25 pts] ') (20 pts)	>1.0m - 1.5m (>3 51.0m (s 3 37) [5		Bankfull Width Max=30
RIPARIAN ZONE AI RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m  Nerrow Sm  None COMMENTS	ID FLOODPLAIN QUALITY FLOODPLAI L R (M D D M D Fix		ed   Right (R) as looking downstream:   R	ige i
FLOW REGIME (At Stream Flowing Subsurface flow with COMMENTS	Time of Evaluation) (Check isolated pools (Interstitial)  r of bends per 61 m (200 ft)	Moist Chan	nel, isolated pools, no flow (Inferm I, no water (Ephemeral) box):	iltent)
O.5  STREAM GRADIENT ESTIN  Flat (0.5 10/100 ft)  Flat to M	1.5	2.5	□ >3	(10 ft/100 ft)

And the second s	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	621.11
Name: Sugar Kun	Distance from Evaluated Stream D.31m10
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIR	E WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: WellSton OH N	RCS Soil Map Page: NRCS Soil Map Stream Order
County: Jackson Co. Township	con Coal Ture.
County. Township	7 City.
MISCELLANEOUS	10 - 0-11
Base Flow Conditions? (Y/N): Date of last precipitation:	O ZO Quantity: 25
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 50	
Were samples collected for water chemistry? (Y/N): Note lab sai	mple no. or id. and attach results) Lab Number.
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, plea	ase explain:
to the containing towart representative of the enough (1914)	F
	at a company of the same of th
Additional comments/description of pollution impacts:	
Performed? (Y/N): (If Yes, Record all observations. Voucher co	illections optional. NOTE: all voucher samples must be labeled with the s eets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes Record all observations, Voucher co	eets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic N	eets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic N	eets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Machine Regarding Biology	eets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Machine Regarding Biology:	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Noucher? (Y/N)	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include important landmarks and other features of interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Noucher? (Y/N)	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include important landmarks and other features of interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for site	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
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Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Managements Regarding Biology:	reets from the Primary Headwater Habitat Assessment Manual)  Prived? (Y/N)  Voucher? (Y/N)  Vo
Performed? (Y/N): (If Yes, Record all observations. Voucher con ID number. Include appropriate field data she fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for site	reets from the Primary Headwater Habitat Assessment Manual)  reved? (Y/N) \( \text{V} \) Voucher? (Y/N) \( \text{V} \) Voucher? (Y/N) \( \text{V} \) Voucher? (Y/N) \( \text{V} \) \( \text{V} \) \( \text{V} \) Voucher? (Y/N) \( \text{V} \) \( \tex

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		Khodes			
	E NUMBER	RIVER BASIN SCIOTO BI		NAGE AREA (mi²) 🛴	.1159.m
LENGTH OF STREAM REACH (		081770 LONG 82.51/587 RI	MOT (PEP	RIVER MILE	
DATE 7 18 2017 SCORE		OMMENTS SOH-KLV-	100	/	
	AND TO SHARE SHARE	to "Field Evaluation Manual fo	DE ANTE DE LA COMPANIE	metalina and a second	
STREAM CHANNEL S	MONE/NATURAL CH	IANNEL   RECOVERED   RE	COVERING D	RECENT OR NO RECO	XERY
SUBSTRATE (Estimate)	percent of every type of	substrate present. Check ONLY two	predominant sub	estrate TYPE boxes	
	The state of the s	ate types found (Max of 8). Final metri	c score is sum of I	The second section is	HHEI Metric
TYPE  BLOR SLABS [16 pts]		TYPE SILT (3 pt)	Value of the same	PERCENT	Points
BOULDER (>256 mm) BEDROCK 116 off	) [16 pts]	LEAF PACKAWOOD			Substrate
COBBLE (69-299 mm)	142 mes 10	FINE DETRITUS &	THE RESERVE AND ADDRESS OF THE PARTY OF THE	<u> </u>	Max = 40
ORAVEL (2.64 mm) (		O D MUCK ED post		14	17
□ □   SAND (<2 mm) [6 pts]	10	O O ARTHFICIAL 13 piss	STATE OF THE PARTY.		
Total of Percentage		(A)		(B)	A+B
Bldr Slabs, Boulder, Cobbi SCORE OF TWO MOST PREDOM		DES. TOTAL NIME	ER OF SUBSTRA	5 J	
-	Telepolitica de la companione de la comp	**************************************	-		
		ool depth within the 61 meter (2001) x storm water pipes) (Check ONLY		h at the time of	Pool Depth Max = 30
> 30 centimeters [20 pts]	PATA SELECT	>5 cm - 10 cm [15		10000000000000000000000000000000000000	
> 22.5 · 30 cm [30 pts] > 10 · 22.5 cm [25 pts]	Local Paris in The	< 5 cm [5 pts]  NO WATER OR M	OIST CHANNEL	0 p(s)	25
COMMENTS				6"	
			OOL DEPTH (cer	illimeters):	
3. BANK FULL WIDTH (Mea 3. 4.0 meles (> 13') [30 pts]	sured as the average of	13-4 measurements) (Chec	ck ONLY one box		Bankfull Width
>3.0m -4.0m (>9.7 - 13	() [25 pts]	☐ ≤1.0 m (≤ 3'3") [5]	A STATE OF THE OWNER, THE PARTY OF THE PARTY	Mary Table	Max=30
> 1.5m - 3.0m (> 4'8'-9')	(*) [20 pts]			5	20
COMMENTS		AVERAGE B	ANKFULL WIDTH	I (meters)	20
	The state of the s	Indicated the party of the property			_
	AND FLOODPLAIN QUA	Information must also be complete LITY ANOTE: River Left (L) and		ing downstream år	
RIPARIAN WIDTH	AND FLOODPLAIN QUA	LITY ANOTE: River Left (L) and PLAIN QUALITY	Right (R) as look	ing downstream;∳r	
The second secon	AND FLOODPLAIN QUA	LITY ANOTE: River Left (L) and	Right (R) as look	ing downstream:	
L R (Per Bank)	AND FLOODPLAIN QUA	LITY ANOTE River Left (L) and PLAIN QUALITY (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old	Right (R) as look		
RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Moderate 5-10m	AND FLOODPLAIN QUA	LITY ANOTE: River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Welland  Immature Forest, Shrub or Old  Field	Right (R) as look	Conservation Tillage	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Nerrow <5m	AND FLOODPLAIN QUA	LITY ANOTE: River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Welland  Immature Forest, Shrub or Old  Field  Residential, Park, New Field	Right (R) as book	ionservation Tillage froan or Industrial Ipen Pasture, Row Itop	
RIPARIAN WIDTH  R (Per Bank)  Wate >10m  Moderate 5-10m	AND FLOODPLAIN QUA	LITY ANOTE: River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Welland  Immature Forest, Shrub or Old  Field	Right (R) as book	Conservation Tillage Irban or Industrial Open Pasture, Row	
RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Nonterate 5-10m  Narrow <5m  None  COMMENTS	AND FLOODPLAIN QUA	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Welland  Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture	Right (R) as book	ionservation Tillage froan or Industrial Ipen Pasture, Row Itop	
RIPARIAN WIDTH  R (Per Bunk)  Wide >10m  None COMMENTS  FLOW REGIME (AI  Stream Flowing	AND FLOODPLAIN QUA	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture  Theck ONLY one box):  Moist Chang	Right (R) as look	ionservation Tillage Irban or Industrial Open Pasture, Row Prop lining or Construction	
RIPARIAN WIDTH  R (Per Bunk)  Wide >10m  None COMMENTS  FLOW REGIME (AI  Stream Flowing	AND FLOODPLAIN QUA	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture  Theck ONLY one box):  Moist Chang	Right (R) as book	ionservation Tillage Irban or Industrial Open Pasture, Row Prop lining or Construction	
RIPARIAN WIDTE  R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  Name  COMMENTS  FLOW REGIME (All  Stream Flowing  Subsurface flow with  COMMENTS	AND FLOODPLAIN QUARE ALCODE AND FLOODPLAIN QUARE ALCODE AND ALCODE	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Wetland Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture  Theak ONLY one box):    Moist Changes)	Right (R) as look	ionservation Tillage Irban or Industrial Open Pasture, Row Prop lining or Construction	
RIPARIAN WIDTH  R (Per Bank)  Wiste > 10m  Moderate 5-10m  Narrow < 5m  Name COMMENTS  FLOW REGIME (A!  Stream Flowing Subsurface flow with COMMENTS  SINUOSITY (Number) None	AND FLOODPLAIN QUARE ALCODE AND FLOODPLAIN QUARE ALCODE AND ALCODE	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture  Theck ONLY one box):  Moist Chang	Right (R) as look	ionservation Tillage Irban or Industrial Open Pasture, Row Prop lining or Construction	
RIPARIAN WIDTE  R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  Nane  COMMENTS  FLOW REGIME (All Stream Howing Subsurface flow with  COMMENTS  SINUOSITY (Number)	AND FLOODPLAIN QUAL H. ALOOD I R.	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Wetland Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture  Theak ONLY one box):    Moist Channel   Dity channel	Right (R) as look	Intervation Tillage Intervation Tillage Intervation Pasture, Row Interpolation Intervation	
RIPARIAN WIDTH  R (Per Bank)  Wisite > 10m  Moderate 5-10m  Narrow < 5m  Name COMMIENTS  FLOW REGIME (All Stream Flowing Subsurface flow with COMMENTS  SINUOSITY (Numbrone) None	AND FLOODPLAIN QUARE LOOD  To soluted pools (Intersities of Evaluation) (Consoluted pools (Intersities of Evaluati	LITY ANOTE River Left (L) and PLAIN QUALITY  (Most Predominant per Bank)  Mature Forest, Wetland Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture  Theck ONLY one box):    Moist Changel)   Other ONLY one   Other	Right (R) as look	Intervation Tillage Intervation Tillage Intervation Pasture, Row Intervation	

ADDITIONAL STREAM INFORMATION (This Information Must Also	o be Completed):
QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	0 :
AWWH Name: Sugar Kun	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Jackson Co. Towns	ship/city. Coal Tup.
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	10 20 Quantity: .25"
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 30	1
Were samples collected for water chemistry? (Y/N): 1 (Note lab	o sample no. or id. and attach results) Lab Number:
	pH (S.U.) Cenductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)	please explain:
Additional comments/description of pollution impacts:	
ID number, include appropriate field date	
	OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest fo	or site evaluation and a narrative description of the stream's location
	and .
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SITE NAMELOCATION A EP-HC SOP SITE NUMBER LENGTH OF STREAM REACH (R) 314 DATE 7 19 20 SCORER KL	ERLAT.39.6	RIVER BASIN 30515 200 081 608 LONG 82.583622 RM	JES DRA	NINAGE AREA (MI <sup>°</sup> ) D	
NOTE: Complete All Items On This	Form - Refer		- NAME OF THE OWNER OWNE	THE RESERVE OF THE PARTY OF THE	
	gnificant substra	Substrate present. Check ONLY two te types found (Max of 8). Final metric  TYPE SH.T (3 pt) LEAF FACKANGOEN FINE DETRITUS (3 CLAY OF HARDONN ARTIFICIAL (3 pts)  (A) 12 PES: TOTAL NUMBE	score is sum o ( CEBRIS (3 pto ptc) (0 pt)	Doxes A & B.  PERCENT  SO  (B)  3	HHEI Metric Points Substrate Max = 40  A+B
2. Maximum Pool Depth (Measure &	he maximum po	rol depth within the 51 meter (200 for storm water pipes) (Check ONLY > 5 cm - 10 cm [15   < 5 cm [5 pts] NO WATER OR MC	() evaluation rea one box) pts]	ch at the time of	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as > 4.0 melers (> 13) [30 pts]   > 3.0 m + 4.0 m (> 9'7' - 13) [25 pts]   > 1.5 m + 3.0 m (> 4'8' - 9'7') [20 pts   COMMENTS		>1.0m - 1.5m (>3 × 1.0m (s 3'3') [5]		21	Bankfull Width Max±30
RIPARIAN ZONE AND FLO	ODPLAIN QUA	Information must also be complete LITY ANOTE: River Left (L) and PLAIN QUALITY		iting downstream\$	9
L R (Per Bank)  □ □ Wide >10m  ■ Moderate 5-10m		(Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field		Conservation Tillage	
□ □ Narrow <5m □ □ None COMMENTS	00	Residential, Park, New Field Feaced Pasture		Open Pasture, Row Crop Mining or Construction	
FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS		Moist Chann	el, isolated poo , no water (Eph	ks, no flow (Infermittent) emeral)	
☐ Nane	ds per 61 m (20 1.0 1.5	(Check ONLY one 2.0 2.5	box):	3.0 >3	
STREAM GRADIENT ESTIMATE  Flat (0.5 N/100 R)  Flat to Moderate	Mode	erate (2 t/100 ti) Moderate t	o Severe	Severe (10 ft/10	ν <b>ε</b> π <sub>}</sub>

DDITIONAL STREAM INFORMATION (This Information Must Also I	be Completed):
QHEI PERFORMED? - Tyes AND QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream <u>0.00 miles</u>
	man and the control of the control o
CWH Name:	Distance from Evaluated Stream
J EWH Name:	
	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	nip/city: Coal lup.
MISCELLANEOUS	- #
Base Flow Conditions? (Y/N): Date of last precipitation:	10 2017 Quantity: 125
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 30 /	
Were samples collected for water chemistry? (Y/N): Note lab s	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pn (c.c.)concuers (himeworn)
s the sampling reach representative of the stream (Y/N)	lease explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data	
	<del></del>
	OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for	site evaluation and a narrative description of the stream's location
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	To A M
( Forest	200
1 1/2010	) of forest
}	10000

## ChioFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



	LAT 31.00	MMENTS SOH-KLV-C	VER CODE_ OIO (P r Ohio's PHV	Was stated war of the same	uctions
	PERCENT  10 30 15 4	ubstrate present. Check ONLY two e types found (Max of 8). Final metric  TYPE SILT [3 pt] LEAF PACKAVOOD FINE DETRITUS (3 CLAY OF HARDPAN MILICK [0 pis] ARTHRICIAL [3 pis]  (A)  [2] ES: TOTAL NUMBE	c score is sum Y DEERIS [3 p pis] 10 pt	of boxes A & B.  PERCENT  40  5  (B)	HHEI Metric Points Substrate Max = 40
Maximum Pool Depth (Measure tile evaluation, Avoid plunge pools from > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		sform water pipes) (Check ONLY  >5 cm - 10 cm [15  -6 cm [5 pts]  NO WATER OR MA	one box): pts] DIST CHANNE		Pool Dept
BANK FULL WIDTH (Measured as > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13) [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS		THE RESERVE TO THE PERSON NAMED IN	k ONLY one 3"-4'8") [15] pts]	box): pts)	Bankfull Width Max=30
RIPARIAN ZONE AND FLOO	DOPLAIN QUAL	Andreas and the control of the contr		ooking downstream &	
RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m	D D	LAIN QUALITY (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field	00	Conservation Tillage Urban or Industrial	- *
☐	00	Residential, Park, New Field Fenced Pasture	00	Open Pasture, Row Crop Mining or Construction	
FLOW REGIME (At Time of the Stream Flowing Substitutes from with isolated in		Maist Cham	nel, isolated po , no water (Ex	ools, no flow (infermittent) themeral)	
Subsurface flow with isolated   COMMENTS					

DITIONAL STREAM INFORMATION (This Information Must Also	be Completed):
QHEI PERFORMED? - Tyes AND QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Orailes
	Distance from Evaluated Stream
CWH Name:	St. L. Com Fredrick of Change
EWH Name:	
. 11 1	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
ounty: Towns	ship/city. Coal & Lick Tup.
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation:	10 20 Quantity: 25"
notograph Information:	
evated Turbidity? (Y/N): N Canopy (% open): 35	1.
ere samples collected for water chemistry? (Y/N): 1 (Note lab	
	pH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)	
dditional comments/description of pollution impacts:	
ID number. Include appropriate field data	
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This must be completed):
	r site evaluation and a narrative description of the stream's location
~ 1 Maintar	nissin Row 4
of XI) Forest / Trainer	MISSIGN ROW Y
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	16 -11
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STREAM CHANNEL

**MODIFICATIONS:** 

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### Primary Headwater F

MAMELOCATION AFP-Hopphorth Rh	RIVER BA	SIN SUNTARIWY DR	AINAGE AREA (mi²)	D.0550
	039 LON	46.82.584161 RIVER CODE_ SOH-KLW-011 (INT	RIVER MILE_	
E: Complete All Items On This Form - Refer to	"Field Eva	aluation Manual for Ohio's PHW	'H Streams" for Inst	tructions
AM CHANNEL ONE / NATURAL CHAN	NEL OR	ECOVERED   RECOVERING	RECENT OR NO REC	COVERY
	MANAGEM CO.		20,70,404,00,00,000	
SUBSTRATE (Estimate percent of every type of sul (Max of 40). Add total number of significant substrate t				HHE
PERCENT	TYPE		PERCENT	Metri
BOULDER (>266 mm) [16 pts]		SILT (3 pt) LEAF PACKANOOCY DEBRIS (3 pt	70	I Omi
BEDROCK [16 pt]	99	FINE DETRITUS (2 ptd)		Substra Max =
COBBLE (65-256 mm) [12 pts] GRAVEL (8-64 mm) (0 pts)	00	CLAY OF HARPDPAN (0 pt)		
SAND (<2 mm) [6 pts]	00	ARTIFICIAL (3 pist)		114
Total of Percentages of	(A)		(B)	A+B
Bid Slabs, Boulder, Cobble, Bedrock OF TWO MOST PREDOMINATE SUBSTRATE TYPES	S: 12	TOTAL NUMBER OF SUBSTR	ATE TYPES:	
Maximum Pool Depth (Weasure the maximum pool			ach at the time of	Pool Dep
evaluation. Avoid plunge pools from road culverts or sl- > 30 centimeters [20 pts]	orm water pi	pes) (Check ONLY one box): > 5 cm + 10 cm [15 pts]	to Valority to the real	Max = 3
22.5 - 30 cm [30 pts]		< 5 cm [5 pts]		15
> 10 - 22.5 cm [25 pts]	0	NO WATER OR MOIST CHANNEL	8cr	
COMM ENTS		MAXIMUM POOL DEPTH (6	entimeters):	
BANK FULL WIDTH (Measured as the average of 3-	l measuren			Bankfu
> 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9 7 - 13) [25 pts]	N	> 1.0 m = 1.5 m (> 3'3"-4'8") [15 pt = 1.0 m (= 3'3") [5 pts]		Width Max≈3
1.5m = 3.0m (> 4'8"=9'7") (20 pts)			2'	6
COMMENTS		AVERAGE BANKFULL WID	TH (melers)	1

	RIPARIAN ZONE AND FL	<b>COOPLAIN QUAL</b>	And the second s		ooking downstream &
	RIPARIAN WIDTH	The second secon	PLAIN QUALITY		
0	R (Per Bank) Wate >10m	o o	(Most Predominant per Bank) Mature Forest, Wetland	bô	Conservation Tillage
XX	Moderate 5-10m	西西	immature Forest, Shrub or Old Field	00	Urban or Industrial
	Nairrow Sim	N	Residential, Park, New Field	00	Open Pasture, Row Crop
	None COMMENTS	00	Fenced Pasture	00	Mining or Construction
		d Evaluation) (C	heck OALLY one box):		T
昌	FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolate COMMENTS		Moist Chann		
S	Stream Flowing Subsurface flow with isolate COMMENTS	ed pools (Interstitie	Moist Chann	no water (E	ools, no flow (infermitte phemeral)

QHEI PERFORMED? - LI Yes KNO QHEI Score _	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
AWWH Name: SUOWY RVI	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
J EWH Name:	Distance non Evaluated official
11.11-1 (1)	E ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Jackson Co. To	0 1517
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	7 18 2017 Quantity: (25"
Photograph Information:	
Bevated Turbidity? (Y/N): N Canopy (% open): 10	001.
Vere samples collected for water chemistry? (Y/N): 1 (Note	
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If	not, please explain:
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The state of the s	The state of the s
BIOTIC EVALUATION	
	urber collections optional. NOTE: all youther samples must be labeled with the sit
erformed? (Y/N): N (If Yes, Record all observations, Vo.	ucher collections optional. NOTE: all voucher samples must be labeled with the sit
reformed? (Y/N): (If Yes, Record all observations. Vo. ID number, Include appropriate field	data sheets from the Primary Headwater Habitat Assessment Manual)
reformed? (Y/N): (If Yes, Record all observations. Vo. ID number, Include appropriate field	data sheets from the Primary Headwater Habitat Assessment Manual)
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reformed? (Y/N): (If Yes, Record all observations. Vo. ID number, Include appropriate field ish Observed? (Y/N) Salamender rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Are comments Regarding Biology DRAWING AND NARRATIVE DESCRIPTI Include important landmarks and other features of interest town	I data sheets from the Primary Headwater Habitat Aspessment Manual)  ors Observed? (Y/N)  Voucher? (Y/N)  Vouc
erformed? (Y/N): (If Yes, Record all observations. Vo. ID number, Include appropriate field sh Observed? (Y/N) Voucher? (Y/N) Salamanderogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aronments Regarding Biology.  DRAWING AND NARRATIVE DESCRIPTI Include important landmarks and other features of interesting in the salaman should be required.	I data sheets from the Primary Headwater Habitat Aspessment Manual)  ors Observed? (Y/N)  Voucher? (Y/N)  Vouc
Performed? (Y/N): (If Yes, Record all observations. Vo. ID number. Include appropriate field ish Observed? (Y/N) Salamenderogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Arcomments Regarding Biology:	I data sheets from the Primary Headwater Habitat Assessment Manual)  ors Observed? (Y/N)  Voucher? (Y/N)  Vouc

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ı	201	1
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S012 SITE NUMBER  LENGTH OF STREAM REACH (1)  DATE 7 19 20 SCORER  NOTE: Complete All Items On This Form	RIVER BASIN SUDTO RIVE  LAT 31.080882 LONG 82.58 IISS RIVE  COMMENTS SOH-KLV-O  THE REFER TO "Field Evaluation Manual for Company of the Comp	PRIVER MILE RIVER MILE   3
MODIFICATIONS:  1. SUBSTRATE (Estimate percent of ever (Max of 40). Add total number of signification of the control of the co	ery type of substrate present. Check ONLY two pant substrate types found (Max of 8). Final metric sercent  TYPE SILT [3 pt] LEAF PACKWOODY FINE DETRITUS [3 pt] CLAY or HARDPAN [MUCK [0 pts]	predominant substrate TYPE boxes score is sum of boxes A & B.  PERCENT DEBRIS [3 pts]  As Substrate May 5 40
	ARTIFICIAL [3 pts]  (A)  TRATE TYPES:  TOTAL NUMBER  aximum pool depth within the 61 meter (200 ft) 1 culverts or storm water pipes) (Check ONLY or \$5 cm - 10 cm [15 pts]	ne box): Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]  COMMENTS  3. BANK FULL WIDTH (Measured as the second secon	< 5 cm [5 pts] NO WATER OR MOI MAXIMUM PO	ST CHANNEL [0 pts]  OL DEPTH (centimeters):  OMLY one box):  "- 4' 8") [15 pts]  Bankfull Width Max=30
COMMENTSRIPARIAN ZONE AND FLOODP	This information must also be completed	NKFULL WIDTH (meters)
RIPARIAN WIDTH  (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m	FLOODPLAIN QUALITY  L R (Most Predominant per Bank)  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Residential, Park, New Field	L R Conservation Tillage Urban or Industrial Open Pasture, Row Crop
None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pooks COMMENTS	Moist Channe	Mining or Construction  el, isolated pools, no flow (Intermittent) no water (Ephemeral)
SINUOSITY (Number of bends per None 0.5 STREAM GRADIENT ESTIMATE  Flat (0.5 n/100 ft) Flat to Moderate	# 61 m (200 ft) of channel) (Check ONLY one be 1.0	3.0

WILLIAMEDI - D 162 VECTIO GUELO	Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Opiles
WWH Name: Sugar Run	Distance from Evaluated Stream  Distance from Evaluated Stream
	Distance from Evaluated Stream
	NG THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NC S+M . Ot	NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Jackson Co.	Township/City. Coal or LICIC hup.
MISCELLANEOUS	tation: 110 2017 Quantity: 1251
Base Flow Conditions? (Y/N): Date of last precipit	tation: (10/201) Quantity: 10/3
Photograph Information:	
Revated Turbidity? (Y/N): Canopy (% open)	): 40'/-
	(Note lab sample no. or id. and attach results) Lab Number:
	(mg/l) pH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)	If not, please explain:
BIOTIC EVALUATION	
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria ish Observed? (Y/N) Sala rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N)	ons. Voucher collections optional. NOTE: all voucher samples must be labeled with the state field data sheets from the Primary Headwater Habitat Assessment Manual) amanders Observed? (Y/N) Voucher? (Y/
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria ish Observed? (Y/N) Voucher? (Y/N) Sala rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  amanders Observed? (Y/N) \( \bar{N} \) Voucher? (Y/N) \( \bar{N} \) Voucher? (Y/N) \( \bar{N} \) Voucher? (Y/N) \( \bar{N} \)
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  amanders Observed? (Y/N) \( \bar{N} \) Voucher? (Y/N) \( \bar{N} \) Voucher? (Y/N) \( \bar{N} \) Voucher? (Y/N) \( \bar{N} \)
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropriation of the control of the	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria ish Observed? (Y/N) Voucher? (Y/N) Sala rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) comments Regarding Biology:	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
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erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria sh Observed? (Y/N) Voucher? (Y/N) Salarogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology: DRAWING AND NARRATIVE DESC Include important landmarks and other features of	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria sh Observed? (Y/N) Sala ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology:	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropriation of the company of the	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
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erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria sh Observed? (Y/N) Voucher? (Y/N) Sala ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Omments Regarding Biology: DRAWING AND NARRATIVE DESC Include important landmarks and other features of	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
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erformed? (Y/N): (If Yes, Record all observation ID number. Include appropriation of the control of the	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria ish Observed? (Y/N) Voucher? (Y/N) Salarogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) comments Regarding Biology: DRAWING AND NARRATIVE DESC Include Important landmarks and other features of	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
erformed? (Y/N): (If Yes, Record all observation ID number. Include appropria sh Observed? (Y/N) Voucher? (Y/N) Sala ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) comments Regarding Biology: DRAWING AND NARRATIVE DESC Include important landmarks and other features of	ate field data sheets from the Primary Headwater Habitat Assessment Manual)  Imanders Observed? (Y/N)  Voucher? (Y/N)  Voucher
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June 20, 2008 Revision

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SOH SITE NUMBER LENGTH OF STREAM REACH (8) 200		RIVER BASIN SOUND RIVER BASIN SOUND 82.508979RA	VER CODE	NNAGE AREA (mi <sup>2</sup> ) ().( RIVER MILE	
DATE 1917 SCORER KLV		MENTS SOH-KLV-	The second second		
NOTE: Complete All Items On This Fo	orm - Refer to *	Field Evaluation Manual for	Ohio's PHW	H Streams" for Instru	ctions
STREAM CHANNEL MONE/N	IATURAL CHANN	EL DRECOVERED DREC	COVERING D	RECENT OR NO RECO	VERY
MODIFICATIONS:		W - C - Charles	raulau is		
SUBSTRATE (Estimate percent of e	very type of sub	strate present. Check ONLY two	predominant su	ibstrate TYPE boxes	
(Max of 40). Add total number of signi				boxes A & B.	HHEI Metric
BLDR SLABS [16 pts]	PERCENT	SILT [3 pt]		PERCENT	Points
□□ BEDROCK (16 pt)		LEAF PACKWOOD	to the same of the	2.0	Substrate
COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts]		CLAY OF HARDAM	to big		Max = 40
☐ ☐ GRAVEL (2-64 mm) [9 pis] ☐ ☐ SAND (<2 mm) [6 pts]	80	O ARTHCIAL IS INS		W	11
Total of Percentages of	5	0	and ground	(B)	A+B
Bidr Slabs, Boulder, Cobble, Bedrock, SCORE OF TWO MOST PREDOMINATE SUB	STRATE TYPES	TOTAL NUMBE	R OF SUBSTR	ATE TYPES:	
2. Maximum Pool Depth (Measure the			O evaluation rea	ch at the time of	Pool Depth
evaluation. Avoid plunge pools from ro	ad culverts or sto	m water pipes) (Check ONLY	one box):	or an are target of	Max = 30
> 22.5 - 30 cm [30 pts]		□ <5 cm [5 pts]			D
> 10 - 22.5 cm [25 pts]		NO WATER OR MO		0	
COMMENTS	***************************************		OOL DEPTH (6	entimeters):	
3. BANK FULL WIDTH (Measured as the 24.0 meters (> 13') [30 pts]	e average of 3-4	measurements) (Chec	k ONLY one bo 3" - 4'8") [15 pt		Bankfull Width
> 3.0 m - 4.0 m (> 9 7 - 13') [25 pts] > 1.5 m - 3.0 m (> 4'8"+9'7") [20 pts]		≥ 1.0m(s 3'3") [5 p	(8)		Max=30
COMMENTS		AVERAGE R	ANKFULL WED	211	5
	1 11-2			the (material)	
		mation must also be complete	d		
RIPARIAN ZONE AND EL COD	OLADI OLIALITY			American demonstrate and	
RIPARIAN ZONE AND FLOOD	FLOODPLAN	NOUALITY	Right (R) as log	king downstream \$	
	L R (M		Right (R) as log	king downstream ar	
L R (Per Bank)	ELCODPLAI	N QUALITY ost Predominant per Bank) sture Forest, Wetland meture Forest, Shrub or Old	Right (R) as loc		
RIPARIAN WIDTH  (Per Bank)  Wide>tom	ELCOPIAI LR (M DD Ma DD Im	N QUALITY ost Predominant per Bank) dure Forest, Wetland	Right (R) as los	Conservation Tillage Urban or Industrial Open Pasture, Row	
RIPARIAN WIDTH  R (Per Bank)  Wide >16m  Moderate 5-10m  Narrow <5m  None	ELCODPLAI	N CUALITY OST Predominant per Bank) dure Forest, Wetland mature Forest, Shrub or Old dd	Right (R) as los	Conservation Tillege Urban or Industrial	
RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  None  COMMENTS	ELCODPLAI  L R (M  D O Me  D O Fe	N CUALITY OST Predominant per Bank) dure Forest, Wetland mature Forest, Shrub or Old did sidential, Park, New Field need Pasture	Right (R) as los	Conservation Tillage Urban or Industrial Open Pasture, Row Crop	
RIPARIAN WIDTH  R (Per Bank)  Wide > 10m  Moderate 5-10m  None  COMMENTS  FLOW REGIME (Al Time of End Stream Flowing	## (Modern Marketion) (Check	N CUALITY ost Predominant per Bank) dure Forest, Wetland mature Forest, Shrub or Old did sidential, Park, New Field naced Pasture  ONLY one box):  Moist Charn	Right (R) as los	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction Is, no flow (Infermittent)	
RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  None  COMMENTS  FLOW REGIME (At Time of Exc	## (Modern Marketion) (Check	N CUALITY OST Predominant per Bank) dure Forest, Wetland mature Forest, Shrub or Old dd sidential, Park, New Field need Pasture  ONLY one box):  Moist Chan	Right (R) as los	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction Is, no flow (Infermittent)	
RIPARIAN WIDTH  R (Per Bank)  Wide > 10m  Moderate 5-10m  Narrow < 5m  None  COMMENTS  FLOW REGIME (Al Time of Eve Stream Rowing  Subsurface flow with isolated por  COMMENTS	FLOODPLAI  R (M  M)  Min  Fix  Re  Fix  Check  ols (Interstitial)	N CUALITY ost Predominant per Bank) dure Forest, Wetland mature Forest, Shrub or Old did sidential, Park, New Field naced Pasture  ONLY one box):  Moist Charn	Right (R) as log	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction Is, no flow (Infermittent)	
RIPARIAN WIDTH  R (Per Bank)  Wide > 10m  Moderate 5-10m  Narrow < 5m  None  COMMENTS  FLOW REGIME (Al Time of Eve Stream Rowing  Subsurface flow with isolated por  COMMENTS	FLOODPLAI  R (M  M)  Min  Fix  Re  Fix  Check  ols (Interstitial)	ost Predominant per Bank) sture Forest, Wetland mature Forest, Shrub or Old did sidential, Park, New Field need Pasture  ONLY one box):  Moist Channel	Right (R) as log	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction Is, no flow (Infermittent)	
RIPARIAN WIDTH  R (Per Bank)  Wide > 16m  Moderate 5-10m  Narrow < 5m  None  COMMENTS  FLOW REGIME (Al Time of End Stream Rowing  Subsurface flow with isolated por  COMMENTS  SHUOSITY (Number of bends)	FLOODFLAI  R (M  M)  Min  Fic  Re  Color (Check  ols (Interstitial)  per 61 m (200 t) (1.0	ost Predominant per Bank) dure Forest, Welland mature Forest, Shrub or Old did sidential, Park, New Field noced Pasture  ONLY one box):  Moist Chann Dry channel, of channel) (Check ONLY one	Right (R) as log	Conservation Titiage Urban or Industrial Open Pasture, Row Crop Mining or Construction Is, no flow (Infermittent) emeral)	

ADDITIONAL STREAM INFORMATION (This Information Must Aiso b	pe Completed):
QHEI PERFORMED? - Yes X No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	620 14
AWWH Name: Sugar Run	Distance from Evaluated Stream 0.38mills
	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
	RE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NellSttm, Att	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Jackson Co. Townshi	ip/city: Coal & UCK Tup.
MISCELLANEOUS	ام ا
Base Flow Conditions? (Y/N): Date of last precipitation:	16 2017 Quantity: 45
Photograph Information:	7
Elevated Turbidity? (Y/N): N Canopy (% open): 25/	
Were samples collected for water chemistry? (Y/N): (Note lab s	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	
is the sampling reach representative of the stream (Y/N)	ease explain:
E TO THE PARTY OF	
Additional community for extraction of mall time imageter	
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data s	
DRAWING AND NARRATIVE DESCRIPTION (	OF STREAM REACH (This <u>must</u> be completed):
	site evaluation and a narrative description of the stream's location
	Field
(Forgold)	tield the
Tool I	1 Com T
Shrub	Transmost
Silions	Transmission)
LOW	) no
(Forested)	Field Field
The Ottel	THEIR
200	(shrub)
( Y )   ( Z )	Silve
	(1)

## Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

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20

	LAT 31.0	RIVER BASIN Scritto RIV 180041 LONG 82.56269 RI OMMENTS SOH-KLY	VER CODE_ -615 (F r Ohio's PHV	VH Streams" for Instr	ructions
MODIFICATIONS:  1. SUBSTRATE (Estimate percent of e (Max of 40). Add total number of significant of the control	PERCENT  10  10	te types found (Max of 8). Final metricity per SILT (3 pt)  LEAF PACKAWOOD  FINE DETRITUS (3)  CLAY OF HARDPAN  MUCK (0 pts)  ARTIFICIAL (3 pts)	c score is sum  Y DEBRIE [3 p  pic]  jo pg	of boxes A & B.  PERCENT  2.0  (B) 3	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the evaluation, Avoid plunge pools from ro > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS POOL [10 pts]   3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts]   > 1.5 m - 4.0 m (> 9.7 - 13) [25 pts]   > 1.5 m - 3.0 m (> 4.8 - 9.7") [20 pts]   COMMENTS	ad culverts o	Storm water pipes   (Check ONLY	ONE DOOR ONE	centimeters):  Dox):  pts]	Pool Depth Max = 30  5  Bankfull Width Max=30
RIPARIAN ZONE AND FLOOD RIPARIAN WIDTH  L. R. (Per Bunk)  Wide >10m  Moderate 5-10m  Nerrow <5m  None COMMENTS  FLOW REGIME (At Time of En	PLAIN QUA	(Most Predominant per Bank)  Mature Forest, Welland Immature Forest, Shrub or Old Field  Residential, Park, New Field  Fenced Pasture		Conservation Tillege Urban or Industrial Open Pasture, Row Crop Mining or Construction	
Stream Flowing Subsurface flow with isolated po COMMENTS SINUOSITY (Number of bends Nome 0.5 STREAM GRADIENT ESTIMATE Fiat (0.5 n/100 ft) Flat to Moderate	per 61 m (20 1.0 1.5		i, no water (E)	Ools, no flow (Infermittent)  3.0 3.0 Severe (10 ft/10	

	No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE	
X WH Name: Dickasum (SU)	
CWH Name:	Distance from Evaluated Stream  Distance from Evaluated Stream
J EWH Name:	
	PS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
county. Jackson Co.	Township/City: Coal & Lick Tup.
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of	flast precipitation: 7/10/2017 Quantity: 25
Photograph Information:	
Sevated Turbidity? (Y/N): Cano	ppy (% open): 40 /
	(/N): Note lab sample no. or id. and attach results) Lab Number:
	red Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stree	am (Y/N) If not, please explain:
Additional comments/description of pollution imp	pacts:
and the state of the state of	
Performed? (Y/N): (If Yes, Record at ID number, Inclu	il observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ude appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
rish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?	Salamanders Observed? (Y/N) Voucher?
rish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?	ther? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
rish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?	ther? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Fish Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Vouc	ther? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Vouc	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Disconnected Regarding Biology.	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
sh Observed? (Y/N) Voucher? (Y/N) ogs or Tadpoles Observed? (Y/N) Voucher.	VE DESCRIPTION OF STREAM REACH (This must be completed):
ish Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Disconnected Regarding Biology.	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
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rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Vouc	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
ish Observed? (Y/N) Voucher? (Y/N) rogs or Tadpoles Observed? (Y/N) Voucher. Voucher	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
or Tadpoles Observed? (Y/N) Voucher?	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Description of Tadpoles Observed? (Y/N) Voucher?	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location
or Tadpoles Observed? (Y/N) Voucher?	VE DESCRIPTION OF STREAM REACH (This must be completed):  features of Interest for site evaluation and a narrative description of the stream's location

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SITE NAMELOCATION AFP HCPPI SOILO SITE NUMBER LENGTH OF STREAM REACH (R) 200 DATE 7 19 17 SCORER KLV NOTE: Complete All Items On This For	RIVER BASIN S LAT31,081751 LONG.82 COMMENTS SO	949500 RIVER CODE H-KLV-0160 (	EPH)	_
A server before the server of	TURAL CHANNEL  RECOVE		THE STATE OF THE S	
1. SUBSTRATE (Estimate percent of ever (Max of 40). Add total number of significant type  BLDR SLABS [16 pts]  BOULDER (>256 mm).[16 pts]  BEDROCK [16 pt]	PERCENT TYPE SILT	8). Final metric score is sum	of boxes A & B.  PERCENT  IV  Substitute 10.	HEI etric pints
☐ ☐ COBBLE (66-269 mm) [12 pts] ☐ ☐ GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	20 00 MUG	or HARDPAN (10 pil) ((10 pis) (CIAL (3 pis)		9
Total of Percentages of Bid's Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBS	CA) IS	OTAL NUMBER OF SUBST	4	+ 13
2. Maximum Pool Depth (Weasure the mevaluation. Avoid plunge pools from road)  30 centimeters [20 pts]  >22.5 +30 cm [30 pts]  >10 - 22.5 cm [25 pts]	d culverts or storm water pipes)		Ma	Depth x = 30
COMM ENTS		MAXIMUM POOL BEPTH	(centimeters):	
3. BANK FULL WIDTH (Measured as the >4.0 melers (> 13) [30 pts] >3.0 m -4.0 m (> 9' 7" - 13') [25 pts] >1.5 m -3.0 m (> 4' 8" -9' 7") [20 pts] COMMENTS	Q 310	(Check OALY one m - 1.5 m (> 3 3*-4 8*) [15 im (≤ 3*9*) [5 pts] AVERAGE BANKFULL W	21   W	inkfull hidth m=30
RIPARIAN ZONE AND FLOODP	This information must also LAIN QUALITY ANOTE: Ri	o be completed oer Left (L) and Right (R) as	ooking downstream\$	
L R (Per Bank)	L R (Most Predominant	ser Bank) L R		
□ □ Wide>t0m	Mature Forest, Wetl	and an Otto	Conservation Tillage	
Moderate 5-10m	DD Immature Forest, St	nus or Old	Urban or Industrial	
□ □ Narrow <5m	Residential, Park, N	ew Field	Open Pasture, Row Crop	
OMMENTS	□□ Fenced Pasture	00	Mining or Construction	
FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pool COMMENTS		Moist Channel, isolated p Dry channel, no water (E	ools, no flow (infermittent) oherneral)	
SINUOSITY (Number of bends po	1.0 (Channel) (Channel) (Channel) (Channel)	2.0 [ 2.5	] 3.0 ] >3	
STREAM GRADIENT ESTIMATE Flat (0.5 to 100 ft) Flat to Moderate	Moderate (2 M100 ft)	☐ Moderate to Severe	Severe (10 ft/100 ft)	

CHE PERFORMED! - THE DE NO CHE	El Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	0.00
	Distance from Evaluated Stream 0.25 miles
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
	UDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Wellston, OH	NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Jackson (o.	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last pred	cipitation: 7/10/2017 Quantity: 25"
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% op	pen): 30·1.
	(Note lab sample no. or id. and attach results) Lab Number:
	en (mg/l) pH (S.U.) Conductivity (µmhos/cm)
	If not, please explain:
s the sampling reach representative of the sheam (1714)	T IIId, pous expans
<del></del>	· · · · · · · · · · · · · · · · · · ·
Additional comments/description of pollution impacts:	and the second s
BIOTIC EVALUATION	A CAMPAN TO THE PROPERTY OF THE PARTY OF THE
ID number, Include approvish Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	ations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site opriate field data sheets from the Primary Headwater Habitat Assessment Manual) salamanders Observed? (Y/N) Voucher? (Y/N)
Performed? (Y/N): (If Yes, Record all observa ID number. Include appro	priate field data sheets from the Primary Headwater Habitat Assessment Manual)  salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) N) Voucher? (Y/N) N
Performed? (Y/N): (If Yes, Record all observation number. Include approvish Observed? (Y/N). Voucher? (Y/N). Strogs or Tadpoles Observed? (Y/N). Voucher? (Y/N).	priate field data sheets from the Primary Headwater Habitat Assessment Manual)  salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) N) Voucher? (Y/N) N
Performed? (Y/N): (If Yes, Record all observation number. Include approvish Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	priate field data sheets from the Primary Headwater Habitat Assessment Manual)  salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) N) Voucher? (Y/N) N
Performed? (Y/N): (If Yes, Record all observa ID number, Include approvish Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:	priate field data sheets from the Primary Headwater Habitat Assessment Manual)  salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) N) Voucher? (Y/N) N
Performed? (Y/N): (If Yes, Record all observation number. Include approving the Notice of Served? (Y/N) Served? (Y/N) Voucher? (Y/N)	priate field data sheets from the Primary Headwater Habitat Assessment Manual)  salamanders Observed? (Y/N) Voucher? (Y/N) Vou
Performed? (Y/N): (If Yes, Record all observation number. Include approving the Notice of Served? (Y/N) Served? (Y/N) Voucher? (Y/N)	scription of STREAM REACH (This must be completed):
Performed? (Y/N): (If Yes, Record all observa ID number. Include approving the Comments Regarding Biology: Voucher? (Y/N)	SCRIPTION OF STREAM REACH (This must be completed): of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number: Include approving the Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology: DRAWING AND NARRATIVE DESTINCT	SCRIPTION OF STREAM REACH (This must be completed): of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approvish Observed? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology; DRAWING AND NARRATIVE DES	scription of STREAM REACH (This must be completed):
Performed? (Y/N): (If Yes, Record all observation number: Include approving the Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology: DRAWING AND NARRATIVE DESTINCT	SCRIPTION OF STREAM REACH (This must be completed): of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N):  (If Yes, Record all observation number: Include approving the Comments Regarding Biology:  DRAWING AND NARRATIVE DES Include important landmarks and other features	SCRIPTION OF STREAM REACH (This must be completed): of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approving the Notice of Particle (Y/N) Strongs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) DRAWING AND NARRATIVE DESTINCTION Include Important landmarks and other features	SCRIPTION OF STREAM REACH (This must be completed):  of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approving the Notice of Particle (Y/N) Strongs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) DRAWING AND NARRATIVE DESTINCTION Include Important landmarks and other features	SCRIPTION OF STREAM REACH (This must be completed):  of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approving the Notice of Particles (Y/N) Strongs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:	SCRIPTION OF STREAM REACH (This must be completed):  of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approsish Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:  DRAWING AND NARRATIVE DESTINCTURE Include Important landmarks and other features	SCRIPTION OF STREAM REACH (This must be completed):  of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approsish Observed? (Y/N) Voucher? (Y/N) Strogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:  DRAWING AND NARRATIVE DESTINCTURE Include Important landmarks and other features	SCRIPTION OF STREAM REACH (This must be completed):  of interest for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observation number. Include approving the Notice of Particles (Y/N) Strongs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:	SCRIPTION OF STREAM REACH (This must be completed):  of interest for site evaluation and a narrative description of the stream's location
DRAWING AND NARRATIVE DES	SCRIPTION OF STREAM REACH (This must be completed):  of Interest for site evaluation and a narrative description of the stream's location

# APPENDIX D Ohio Rapid Assessment Method for Wetlands (ORAM) Data Forms



Site: AEP-Ha	Rhodes	Rater(s): KLV	Date: 7   3   2017
	Metric 1. Wetland A	rea (size). W00	1-PEM-CATIMODZ
max 6 pts. subtotal	Select one size class and assign sco	) 20.2ha) (5 pts)  ha) (4 pts)  i) (3 pts)  .2ha) (2pts)  :0.12ha) (1 pt)	
4 4	Metric 2. Upland bu	iffers and surroun	ding land use.
	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers  b. Intensity of surrounding land use VERY LOW. 2nd growth o LOW. Old field (>10 years MODERATELY HIGH. Re	m (164ft) or more around wetland 25m to <50m (82 to <164ft) arouse 10m to <25m (32ft to <82ft) arouse average <10m (<32ft) around we Select one or double check and or older forest, prairie, savannah, ), shrub land, young second grow	d perimeter (7) and wetland perimeter (4) bund wetland perimeter (1) tland perimeter (0) d average. wildlife area, etc. (7) th forest. (5) bonservation tillage, new fallow field. (3)
18 72	Metric 3. Hydrology	/.	
max 30 pts subtotal	Ba. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfal Perennial surface water (late) Sources of Water depth. Select of >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (4) 0.4m (<15.7in) (1)  Be. Modifications to natural hydrological productions (15.7m)	nce water (3) ke or stream) (5) nly one and assign score.	Bb. Connectivity. Score all that apply.  100 year floodplain (1)  Between stream/lake and other human use (1)  Part of wetland/upland (e.g. forest), complex ( Part of riparian or upland corridor (1)  Bd. Duration inundation/saturation. Score one or dbl che  Semi- to permanently inundated/saturated (4)  Regularly inundated/saturated (3)  Seasonally inundated (2)  Seasonally saturated in upper 30cm (12in) (1)  theck and average.
i	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike welr stormwater input	point source (nonstormwater) filling/grading road bed/RR track dredging other
115 235	Metric 4. Habitat Al	teration and Deve	lopment.
	A. Substrate disturbance. Score or None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) B. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) C. Habitat alteration. Score one or None or none apparent (9) Recovered (6) Recovering (3)	y one and assign score.  double check and average.	red shrub/sapling removal herbaceous/aquatic bed removal
33.5 subtotal this page	Recent or no recovery (1)	clearcutting selective cutting woody debris removal toxic pollutants	sedimentation dredging farming nutrient enrichment

Site: AFP-Happier to Rhodes Rater	(s): KLV	Date: 7   3   20   7
W001  33.5  Metric 5. Special Wetlar	•	CATMODZ
Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydronings) (10) eatened or ender fowl habitat or 1 Qualitative F	angered species (10)
L 33.3		
max 20 pts. subtotal 6a. Wetland Vegetation Communities.		Community Cover Scale
Score all present using 0 to 3 scale.  Aquatic bed Emergent Shrub	1	Absent or comprises <0.1ha (0.2471 acres) contiguous area  Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
Other_6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
Select only one.	Normative D	tensintian of Versatation Cuality
High (5)  Moderately high(4)  Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)	Mudfleten	d Ones Water Class Ovality
Absent (1) 6d. Microtopography	0	Open Water Class Quality Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh Amphibian breeding pools		graphy Cover Scale
and an arrange of the state of	0	Absent
	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
055	3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

Site: AEY-	Heppiner to Khades   Rater(s): KU	J Date: 7   8   2017
2 2	Metric 1. Wetland Area (size).	WOOZ - PEM-CATMODZ
max 6 pts subtol	Select one size class and assign score.  >50 acres (>20.2ha) (6 pts)  25 to <50 acres (10.1 to <20.2ha) (5 pts)  10 to <25 acres (4 to <10.1ha) (4 pts)  3 to <10 acres (1.2 to <4ha) (3 pts)  0.3 to <3 acres (0.12 to <1.2ha) (2pts)  0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)  <0.1 acres (0.04ha) (0 pts)	
5 7	Metric 2. Upland buffers and sur	rounding land use.
ex 14 pts. subteta	2a. Calculate average buffer width. Select only one and ass WIDE. Buffers average 50m (164ft) or more aroun MEDIUM. Buffers average 25m to <50m (82 to <1 X) NARROW. Buffers average 10m to <25m (32ft to VERY NARROW. Buffers average <10m (<32ft) al 2b. Intensity of surrounding land use. Select one or double VERY LOW. 2nd growth or older forest, prairie, sa LOW. Old field (>10 years), shrub land, young sec MODERATELY HIGH. Residential, fenced pasture HIGH. Urban, industrial, open pasture, row cropping	d wetland perimeter (7) 64ft) around wetland perimeter (4) <82ft) around wetland perimeter (1) round wetland perimeter (0) check and average. vannah, wildlife area, etc. (7) ond growth forest. (5) e, park, conservation tillage, new fallow field. (3)
18 25	Matria 2 Hardralams	
ax 30 pts subtota		Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1
	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)  Check all disturbance ditch tile dike weir stormwater input	point source (nonstormwater) filling/grading road bed/RR track dredging
115 360	Metric 4. Habitat Alteration and	Development.
x 20 pts. subtotal	None or none apparent (4) Recovered (3) Recovering (2)	verage.
	Recent or no recovery (1)  4b. Habitat development. Select only one and assign score.  Excellent (7)  Very good (6)  Good (5)  Moderately good (4)  Fair (3)  Poor to fair (2)  Poor (1)  4c. Habitat alteration. Score one or double check and average	ge.
36.5	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)  Recent or no recovery (1)  Check all disturbance mowing grazing clearcutting selective cutting woody debris re toxic pollutants	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging

3u.5 Subtotal first page	PEM-CATMODZ
0 365 Metric 5. Special Wetlands.	
max 10 pts sublotal Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (1) Lake Erie coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (Oak Openings) (10) Relict Wet Prairies (10) Known occurrence state/federal threatened or endangered significant migratory songbird/water fowl habitat or usage (1)	pecies (10)
Category 1 Wetland. See Question 1 Qualitative Rating (-10	))
max 20 pts. subtotal 6a. Wetland Vegetation Communities. Vegetation Communities.	
	or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed 1 Preser	at and either comprises small part of wetland's tation and is of moderate quality, or comprises a ficant part but is of low quality
Forest 2 Preser Mudflats vege	and either comprises significant part of wetland's tation and is of moderate quality or comprises a small and is of high quality
Other 3 Preser  6b. horizontal (plan view) Interspersion. vege	and is of high quality and comprises significant part, or more, of wetland's lation and is of high quality
Select only one.	- of Vagatation Quality
Moderately high(4) low Low sp Moderate (3) distu	n of Vegetation Quality op diversity and/or predominance of nonnative or rbance tolerant native species
Low (1) None (0) can a 6c. Coverage of invasive plants. Refer mode	spp are dominant component of the vegetation, ugh nonnative and/or disturbance tolerant native spp also be present, and species diversity moderate to erately high, but generally w/o presence of rare tened or endangered spp
or deduct points for coverage high A pred  Extensive >75% cover (-5) and/o  Moderate 25-75% cover (-3) abse  Sparse 5-25% cover (-1) the p	ominance of native species, with nonnative spp or disturbance tolerant native spp absent or virtually nt, and high spp diversity and often, but not always, resence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)	L. L. Oliver Overlitte
Absent (1) Mudflat and Open W	
	: <0.1ha (0.247 acres) 1 to <1ha (0.247 to 2.47 acres)
3	ate 1 to <4ha (2.47 to 9.88 acres)
	ha (9.88 acres) or more
Standing dead >25cm (10in) dbh	Anna was and a constant
Amphibian breeding pools Microtopography Co	over Scale
0 Absent	
1 Preser of ma	nt very small amounts or if more common arginal quality
	nt in moderate amounts, but not of highest ty or in small amounts of highest quality
	nt in moderate or greater amounts of highest quality

Cod. MOD 2

End of Quantitative Rating. Complete Categorization Worksheets.

clearcutting

selective cutting

toxic pollutants

woody debris removal

sedimentation

nutrient enrichment

dredging

farming

subtotal this page last revised 1 February 2001 jjm

Recent or no recovery (1)

Site: AFP - Hope	archo Rhomo Rater	(s): KL	Date: 7 17 2017
Z9 subtotal first page		W003	-PEM-CATZ
	Metric 5. Special Wetlan	ds.	
max 10 pts. sublotal Ch	Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-ru Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro iings) (10) atened or enda fowl habitat or	angered species (10) usage (10)
1 30 N	Metric 6. Plant communi	ities, int	erspersion, microtopography.
max 20 pts. subtotal 6a	. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
	core all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
	Aquatic bed Emergent	-1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
	Shrub	1	significant part but is of low quality
	Forest  Mudflats  Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
6h	Other  horizontal (plan view) Interspersion	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	elect only one.  High (5)	Narrative D	escription of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) . Coverage of invasive plants. Refer	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	Table 1 ORAM long form for list. Add	high	
or .	deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflat and	d Open Water Class Quality
	Microtopography	0	Absent <0.1ha (0.247 acres)
Sc	ore all present using 0 to 3 scale.	-1-	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
	Amphibian breeding pools		graphy Cover Scale
		1	Absent Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		3	Present in moderate or greater amounts and of highest quality

CAT2

End of Quantitative Rating. Complete Categorization Worksheets.

4b.	Habitat development. Select only	one and assign score.	
	Excellent (7)		
	Very good (6)		
	Good (5)		
	Moderately good (4)		
	Fair (3)		
	Poor to fair (2)		
	Poor (1)		
łc.	Habitat alteration. Score one or de	ouble check and average.	
	None or none apparent (9)	Check all disturbances observe	h
	Recovered (6)	mowing	shrub/sapling removal
	Recovering (3)	grazing	herbaceous/aquatic bed removal
	Recent or no recovery (1)	clearcutting	sedimentation
	Tresent of no recovery (1)	selective cutting	dredging
		woody debris removal	farming
		toxic pollutants	nutrient enrichment
	N. Carlotte	Toxic politicalits	
20	04 8		

last revised 1 February 2001 jjm

Site: AEP	-Happner to Rhades	Rater(s): KLV	Date: 7 18 17
L	15 of first page	Wo	004 - PUB-CATZ
	Metric 5. Special	Wetlands.	
max 10 pts su	Lake Erie coastal/tribut Lake Plain Sand Prairie Relict Wet Prairies (10) Known occurrence state Significant migratory so	d (5) ary wetland-unrestricted hydro ary wetland-restricted hydro es (Oak Openings) (10)	angered species (10)
5 5	Metric 6. Plant co	ommunities, int	erspersion, microtopography.
	blotal 6a. Wetland Vegetation Commun	nities. Vegetation	Community Cover Scale
	Score all present using 0 to 3 sca		Absent or comprises <0.1ha (0.2471 acres) contiguous area
	Aquatic bed Emergent Shrub	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
	Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
	Other  6b. horizontal (plan view) Interspo	ersion.	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Select only one.		
	High (5)	Narrative D	escription of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. to Table 1 ORAM long form for lis		Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage  Extensive >75% cover (  Moderate 25-75% cover (  Sparse 5-25% cover (-1	er (-3) 1)	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cov		A Communication of the Communication
	Absent (1)	Mudflat and	d Open Water Class Quality
	<ol> <li>Microtopography.</li> <li>Score all present using 0 to 3 scal</li> </ol>		Absent <0.1ha (0.247 acres)  Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/ti		Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >	15cm (6in) 3	High 4ha (9.88 acres) or more
	Standing dead >25cm ( Amphibian breeding po		graphy Cover Scale
	Amphibian breeding po	0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		3	Present in moderate or greater amounts and of highest quality

CAT 2

last revised 1 February 2001 jjm

Site: AP	- Hoppiner to Rhides Rater	(s): KLV	Date: 7 18 2017
	1.5 first page		W005 -PEM-CATZ
0 3	Metric 5. Special Wetlar	nds.	
max 10 pts. sub	Check all that apply and score as indicated.  Bog (10)		
	Fen (10)		
	Old growth forest (10)		
	Mature forested wetland (5)	uprostricted by	drology (10)
	Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland-		
	Lake Plain Sand Prairies (Oak Oper		,g, (c)
	Relict Wet Prairies (10)		
	Known occurrence state/federal three		
	Significant migratory songbird/water		
- 1	Category 1 Wetland. See Question		
2 21	Metric 6. Plant commun	ities, int	terspersion, microtopography.
7 7	7.0	44 500	
max 20 pts. sub	ou. Trouding regulation commentation		Community Cover Scale
	Score all present using 0 to 3 scale.  Aquatic bed	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's
	Emergent		vegetation and is of moderate quality, or comprises a
	Shrub		significant part but is of low quality
	O Forest	2	Present and either comprises significant part of wetland's
	O Mudflats		vegetation and is of moderate quality or comprises a small
	Open water		part and is of high quality
	Other	3	Present and comprises significant part, or more, of wetland's
	6b. horizontal (plan view) Interspersion. Select only one.	-	vegetation and is of high quality
	High (5)	Narrative D	escription of Vegetation Quality
	Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
	Moderate (3)		disturbance tolerant native species
	Moderately low (2)	mod	Native spp are dominant component of the vegetation,
	Low (1)		although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to
	None (0)  6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
	to Table 1 ORAM long form for list. Add		threatened or endangered spp
	or deduct points for coverage	high	A predominance of native species, with nonnative spp
	Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
	Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
	Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Modfleton	d Coor Water Class Quality
	6d. Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
	Standing dead >25cm (10in) dbh	THE REAL PROPERTY.	
	Amphibian breeding pools		graphy Cover Scale
		0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		3	Present in moderate or greater amounts
			and of highest quality

34.5 CAT2

Site: AE	P-Happner to Rhades Rater	(s): KLV	Date: 7 18 2017
subto	37.5  Idal first page  Motric 5 Special Wotlan		006 - PEM-CATMODZ
0 3	Metric 5. Special Wetlan	ius.	
max 10 pts.	Check all that apply and score as indicated		
	Bog (10)		
	Fen (10) Old growth forest (10)		
	Mature forested wetland (5)		
	Lake Erie coastal/tributary wetland-u		
	Lake Erie coastal/tributary wetland-r		ology (5)
	Lake Plain Sand Prairies (Oak Oper	nings) (10)	
	Relict Wet Prairies (10)  Known occurrence state/federal thre	atened or end	angered species (10)
	Significant migratory songbird/water		
	Category 1 Wetland. See Question		
	Metric 6. Plant commun	ities. int	erspersion, microtopography.
3 1	10.5		
max 20 pts.	subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
	Aquatic bed	1	Present and either comprises small part of wetland's
	Emergent		vegetation and is of moderate quality, or comprises a
	Shrub	- 0	significant part but is of low quality  Present and either comprises significant part of wetland's
	Forest Mudflats	2	vegetation and is of moderate quality or comprises a small
	Open water		part and is of high quality
	Other	3	Present and comprises significant part, or more, of wetland's
	6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
	Select only one.		
	High (5)	Narrative D	escription of Vegetation Quality
	Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
	Moderate (3)	mod	disturbance tolerant native species  Native spp are dominant component of the vegetation,
	Moderately low (2) Low (1)	mod	although nonnative and/or disturbance tolerant native spp
	None (0)		can also be present, and species diversity moderate to
	6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
	to Table 1 ORAM long form for list. Add		threatened or endangered spp
	or deduct points for coverage	high	A predominance of native species, with nonnative spp
	Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
	Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
	Sparse 5-25% cover (-1)	-	the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflat and	d Open Water Class Quality
	6d. Microtopography	0	Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
	Standing dead >25cm (10in) dbh	ur.	Santa Causa Saala
	Amphibian breeding pools	-	graphy Cover Scale
		- 0	Absent Present very small amounts or if more common
		1	of marginal quality
		2	Present in moderate amounts, but not of highest
			quality or in small amounts of highest quality
		3	Present in moderate or greater amounts
710			and of highest quality

(40.5)

Site: AEP-1	reponer to Rhodes R	ater(s): KLV	Date: 7   18   2017
7 2	Metric 1. Wetland Are	ea (size). Wo	007 - PUB - CAT2
max 6 pts. subtotal	Select one size class and assign score	(4 pts) pts) a) (2pts)	
8 10	Metric 2. Upland buff	ers and surroun	ding land use.
max 14 pts subtotal	2a. Calculate average buffer width. Sel WIDE. Buffers average 50m ( MEDIUM. Buffers average 25 NARROW. Buffers average 1 VERY NARROW. Buffers average 1 VERY LOW. 2nd growth or ol LOW. Old field (>10 years), sl MODERATELY HIGH. Reside HIGH. Urban, industrial, open	164ft) or more around wetland m to <50m (82 to <164ft) arou om to <25m (32ft to <82ft) around we select one or double check an der forest, prairie, savannah, arub land, young second grow ential, fenced pasture, park, co	d perimeter (7) and wetland perimeter (4) bund wetland perimeter (1) tland perimeter (0) d average. wildlife area, etc. (7) th forest. (5) buservation tillage, new fallow field. (3)
15 25	Metric 3. Hydrology.	, , , , , , , , , , , , , , , , , , , ,	
max 30 pts. subtotal	3a. Sources of Water. Score all that apply High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface of Perennial surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Surface) 3c. Maximum water depth. Select only of Perennial Surface water (lake of Perennial Su	water (3) or stream) (5) 3 one and assign score.	Bb. Connectivity. Score all that apply.  100 year floodplain (1)  Between stream/lake and other human use (1)  Part of wetland/upland (e.g. forest), complex (1)  Part of riparian or upland corridor (1)  Bd. Duration inundation/saturation. Score one or dbl check  Semi- to permanently inundated/saturated (4)  Regularly inundated/saturated (3)  Seasonally inundated (2)  Seasonally saturated in upper 30cm (12in) (1)  heck and average.
		Check all disturbances observed ditch tile dike weir stormwater input	
10 31	Metric 4. Habitat Alte	ration and Deve	lopment.
max 20 pts. subtotal	4a. Substrate disturbance. Score one of None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select only on Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or doul	e and assign score.	
subtotal this pa	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	heck all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

Site: A	EP-H	acponer to Rhodes Rater	(s): KU	Date: 7 18 2017			
sı	3 ubtotal first pa	lge	W007	-PUB-CATZ			
0	31	Metric 5. Special Wetlar	nds.				
max 10 pts.	subtotal	Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or end fowl habitat or	angered species (10) r usage (10)			
3	34	Metric 6. Plant commun	ities, int	terspersion, microtopography.			
max 20 pts	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale			
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area			
		Aquatic bed Emergent Shrub	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality			
		Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality			
		Other6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality			
		Select only one.					
		High (5)		Description of Vegetation Quality			
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species			
		Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp			
		or deduct points for coverage  Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp			
		Nearly absent <5% cover (0)	Modelan	d Owen Water Class Quality			
		Absent (1) 6d. Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)			
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)			
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)			
		Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more			
		Amphibian breeding pools	Microtopography Cover Scale				
			0	Absent			
			1	Present very small amounts or if more common of marginal quality			
			2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality			
011			3	Present in moderate or greater amounts and of highest quality			

CAT2

mowing

grazing

clearcutting selective cutting

toxic pollutants

woody debris removal

shrub/sapling removal

nutrient enrichment

sedimentation

dredging

farming

herbaceous/aquatic bed removal

subtotal this page last revised 1 February 2001 jjm

Recovered (6)

Recovering (3)

Recent or no recovery (1)

Site:AFP-	Hoppner to Phodos Rater	(s): KLV	Date: 7 9 2017
subtotal fi	Metric 5. Special Wetlar		PEM-CATI
max 10 pts. subti	Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Opel Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or end r fowl habitat or 1 Qualitative F	angered species (10) r usage (10)
8 21			
max 20 pts. subto	ca. Trettaria regetation communico.		Community Cover Scale
	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's
	Aquatic bed	1	vegetation and is of moderate quality, or comprises a
	Emergent		
	Shrub		significant part but is of low quality
	O Forest	2	Present and either comprises significant part of wetland's
	Mudflats		vegetation and is of moderate quality or comprises a small
	Open water	1	part and is of high quality
	O Olher	3	Present and comprises significant part, or more, of wetland's
	6b. horizontal (plan view) Interspersion,		vegetation and is of high quality
	Select only one.	100	
	High (5)	Narrative D	escription of Vegetation Quality
	Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
	Moderate (3)		disturbance tolerant native species
	Moderately low (2)	mod	Native spp are dominant component of the vegetation,
	Low (1)		although nonnative and/or disturbance tolerant native spp
	None (0)		can also be present, and species diversity moderate to
	6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
	to Table 1 ORAM long form for list. Add		threatened or endangered spp
	or deduct points for coverage	high	A predominance of native species, with nonnative spp
	Extensive >75% cover (-5)	3	and/or disturbance tolerant native spp absent or virtually
	Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
	Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0)	-	the presented of rate, threatened, or endangered app
	Absent (1)	Mudflat and	d Open Water Class Quality
	6d. Microtopography	0	Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		3	High 4ha (9.88 acres) or more
	Coarse woody debris >15cm (6in)		riigh 4ha (9.06 acres) or more
	O Standing dead >25cm (10in) dbh		The Course Seeds
	Amphibian breeding pools		graphy Cover Scale
		0	Absent
		1	Present very small amounts or if more common
		-	of marginal quality
		2	Present in moderate amounts, but not of highest
			quality or in small amounts of highest quality
		3	Present in moderate or greater amounts
			and of highest quality

CHTI

	The property of the second sec	11001
0 0	Metric 1. Wetland Area (size). W	1009 - PEM - CATMODZ
max 6 pts. subtot	S50 acres (>20.2ha) (6 pts)	
99	Metric 2. Upland buffers and surro	unding land use.
max 14 pts. subteta	2a. Calculate average buffer width. Select only one and assign s WIDE. Buffers average 50m (164ft) or more around we MEDIUM. Buffers average 25m to <50m (82 to <164ft) NARROW. Buffers average 10m to <25m (32ft to <82ft) VERY NARROW. Buffers average <10m (<32ft) around 2b. Intensity of surrounding land use. Select one or double check VERY LOW. 2nd growth or older forest, prairie, savann LOW. Old field (>10 years), shrub land, young second MODERATELY HIGH. Residential, fenced pasture, par HIGH. Urban, industrial, open pasture, row cropping, m	etland perimeter (7) around wetland perimeter (4) ft) around wetland perimeter (1) d wetland perimeter (0) ek and average. hah, wildlife area, etc. (7) growth forest. (5) rk, conservation tillage, new fallow field. (3)
14 25	Metric 3. Hydrology.	
max 30 pts. subtota		3b. Connectivity. Score all that apply.  100 year floodplain (1)  Between stream/lake and other human use (1)  Part of wetland/upland (e.g. forest), complex (1)  Part of riparian or upland corridor (1)  3d. Duration inundation/saturation. Score one or dbl check  Semi- to permanently inundated/saturated (4)  Regularly inundated/saturated (3)
	0.4 to 0.7m (15.7 to 27.6in) (2) <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regime. Score one or double to the s	Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1)
	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1)	point source (nonstormwater) filling/grading road bed/RR track dredging other
9.5 345	Metric 4. Habitat Alteration and De	velopment.
max 20 pts. subtotal	4a. Substrate disturbance. Score one or double check and average None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	ge.
	4b. Habitat development. Select only one and assign score.  Excellent (7)  Very good (6)  Good (5)  Moderately good (4)  Fair (3)  Poor to fair (2)  Poor (1)  4c. Habitat alteration. Score one or double check and average.	
34,5 subtotal this p		shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging

Site: AER Happner to Rhodes Rate	r(s): KLV	Date: 7/19/2017
34.5 subtotal first page  Metric 5. Special Wetland		- PEM-CATMODZ
6 345 Wettie 3. Special Wetlan	ilus.	
max 10 pts. subtotal Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal the Significant migratory songbird/wate	-restricted hydro enings) (10) reatened or ender fowl habitat or	angered species (10)
Category 1 Wetland. See Question		
3 37.5 Metric 6. Plant commun	nities, int	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
Score all present using 0 to 3 scale.  O Aquatic bed	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's
Emergent		vegetation and is of moderate quality, or comprises a
O Shrub		significant part but is of low quality
Forest	2	Present and either comprises significant part of wetland's
Mudflats		vegetation and is of moderate quality or comprises a small
Open water Other	3	part and is of high quality  Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.	0	vegetation and is of high quality
Select only one.		Was a second and and
High (5)	-	Description of Vegetation Quality
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
<ol> <li>Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add</li> </ol>		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, infeataned, or endangered spp
Absent (1)	Mudflat and	d Open Water Class Quality
6d. Microtopography.	10	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)  Moderate 1 to <4ha (2.47 to 9.88 acres)
Vegetated hummucks/tussucks     Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
O Standing dead >25cm (10in) dbh		This is a constant of the cons
( Amphibian breeding pools		graphy Cover Scale
	0	Absent
		Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest
		quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
275		and of highest quality

CATMOD2

clearcutting

selective cutting

toxic pollutants

woody debris removal

sedimentation

nutrient enrichment

dredging

farming

last revised 1 February 2001 jjm

Recent or no recovery (1)

Site:A	FP-1	toppner to Rhodes Rater	(s): KLV	Date: 7/19/2017
s	38 ubtotal first p	Dege	V	VO10-PEM-CATMODZ
0	38	Metric 5. Special Wetlar	nds.	
max 10 pts.	subtotal	Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Opel Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/watel Category 1 Wetland. See Question	restricted hydronings) (10) eatened or end r fowl habitat or 1 Qualitative F	angered species (10) r usage (10) Rating (-10)
3	41	Metric 6. Plant commun	ities, int	terspersion, microtopography.
max 20 pts	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		O Aquatic bed	1	Present and either comprises small part of wetland's
		Emergent		vegetation and is of moderate quality, or comprises a
		Shrub		significant part but is of low quality
		Forest	2	Present and either comprises significant part of wetland's
		O Mudflats		vegetation and is of moderate quality or comprises a small
		Open water		part and is of high quality
		Other_	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
		6b. horizontal (plan view) Interspersion. Select only one.	-	vegetation and is of high quality
		High (5)	Narrative D	Description of Vegetation Quality
		Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
		Moderate (3)		disturbance tolerant native species
		Moderately low (2)	mod	Native spp are dominant component of the vegetation,
		Low (1)		although nonnative and/or disturbance tolerant native spp
		None (0)		can also be present, and species diversity moderate to
		6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
		to Table 1 ORAM long form for list. Add		threatened or endangered spp
		or deduct points for coverage	high	A predominance of native species, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
		Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
		Nearly absent <5% cover (0)	Wilder I	
		Absent (1)		d Open Water Class Quality
		6d. Microtopography,	10	Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
		Standing dead >25cm (10in) dbh	Mineral	Tranky Cover Seele
		Amphibian breeding pools		graphy Cover Scale
			0	Absent Special and the special
			1	Present very small amounts or if more common
			- 0	of marginal quality
			2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
			3	Present in moderate or greater amounts
	ly .		3	
				and of highest quality

# APPENDIX E ODNR and USFWS Correspondence





May 12, 2017 Project C170352.06

Environmental Review Staff
Ohio Department of Natural Resources
Division of Wildlife - Ohio Natural Heritage Program
2045 Morse Road, Building G-3
Columbus, Ohio 43229-6693

American Electric Power
Rhodes – Heppner 138kV Line Rebuild Project
Request for Technical Assistance Regarding Threatened
and Endangered Species and Critical Habitat
Jackson County, Ohio

#### Dear Staff:

GAI Consultants, Inc. (GAI), on behalf of American Electric Power (AEP), is requesting information regarding state- and federally-listed threatened and endangered species in the vicinity of the Rhodes – Heppner 138kV Line Rebuild Project (Project) in Jackson County, Ohio. As part of this request, please provide information specific to any threatened and endangered bats. GAI is also requesting the locations of any known golden or bald eagle nests in the area.

The proposed Project involves the rebuild of approximately 4.6 miles of the Rhodes – Heppner 138kV transmission line.

The study area for the Project is shown on the attached map (Figure 1). The habitat within the study area consists of maintained right-of-way bordered by mixed deciduous forests, agricultural lands, and residential properties. Project shapefiles have been included to aid in your review.

GAI and AEP thank you in advance for your assistance. Please contact me at 330.324.9148 or via email at a.wheaton@gaiconsultants.com if you have any questions or require further information.

Sincerely,

GAI Consultants, Inc.

Allison R. Wheaton, WPIT

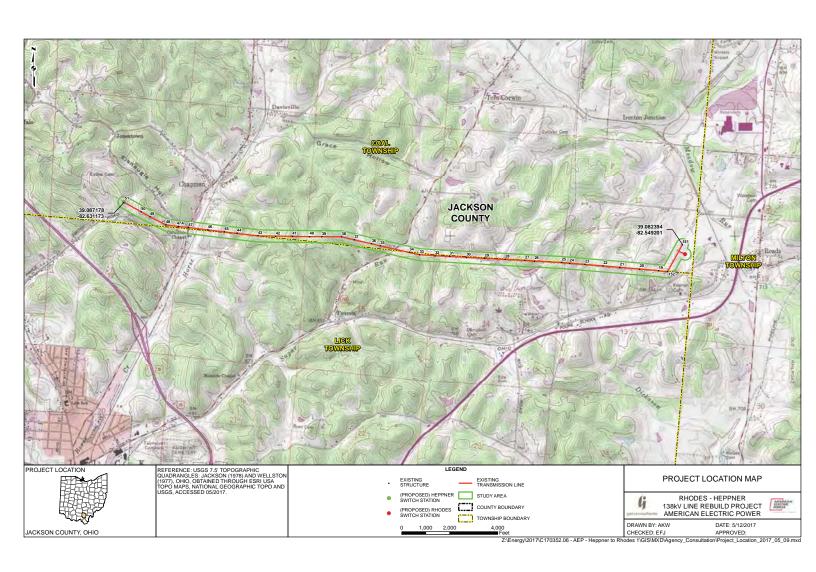
Senior Project Environmental Specialist

ARW/kea

Attachments: Attachment 1 (Project Location Map)

**Project Shapefiles** 

## ATTACHMENT 1 PROJECT LOCATION MAP



From: <u>susan zimmermann@fws.gov</u> on behalf of <u>Ohio, FW3</u>

To: Allison Wheaton

Cc: <u>kate.parsons@dnr.state.oh.us</u>; <u>nathan.reardon@dnr.state.oh.us</u>

Subject: Four (4) AEP Projects: Heppner / Rhoads / Ginger / Rhoads-Heppener

**Date:** Friday, June 02, 2017 1:39:00 PM

Attachments: Capture of Dan.PNG



#### UNITED STATES DEPARTMENT OF THE INTERIOR

U.S. Fish and Wildlife Service Ecological Services Office 4625 Morse Road, Suite 104 Columbus, Ohio 43230 (614) 416-8993 / Fax (614) 416-8994



03E15000-2017-TA-1329 GAI AEP Ginger Switch Replacement Project, Ross Co. 03E15000-2017-TA-1328 GAI AEP Heppner Substation Project, Jackson Co. 03E15000-2017-TA-1327 GAI AEP Rhodes Substation Project, Jackson Co. 03E15000-2017-TA-1326 GAI AEP Rhoders-Heppner 138kV Line Rebuild, Jackson

Dear Ms. Wheaton,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed nonforested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags =3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as

well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

Should the proposed site contain trees =3 inches dbh, we recommend that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees =3 inches dbh cannot be avoided, we recommend that removal of any trees =3 inches dbh only occur between October 1 and March 31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental

http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that summer surveys may only be conducted between June 1 and August 15.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

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

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at <a href="mailto:iohn.kessler@dnr.state.oh.us">iohn.kessler@dnr.state.oh.us</a>.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <a href="mailto:ohio@fws.gov">ohio@fws.gov</a>.

Sincerely,

Dan Everson

Field Supervisor

cc: Nathan Reardon, ODNR-DOW

Kate Parsons, ODNR-DOW



May 12, 2017 Project C170352.06

Mr. Dan Everson United States Fish and Wildlife Service Ohio Ecological Services Field Office 4625 Morse Road, Suite 104 Columbus, Ohio 43230

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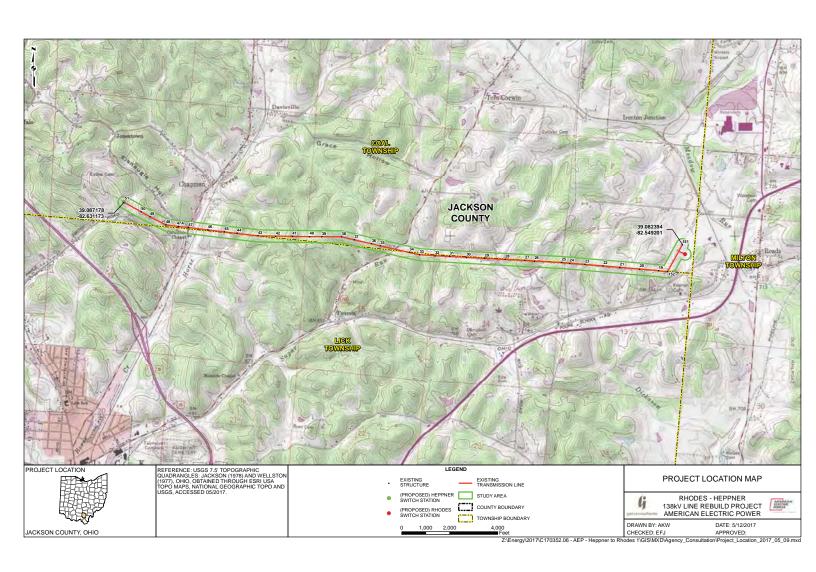
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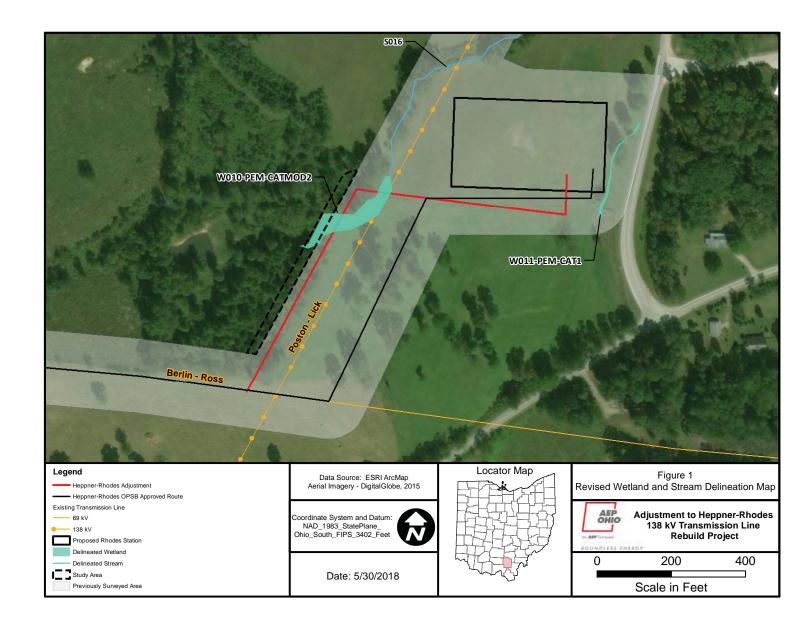
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**Project Shapefiles** 

## ATTACHMENT 1 PROJECT LOCATION MAP



### **REVISED WETLAND AND STREAM DELINEATION MAP**



This foregoing document was electronically filed with the Public Utilities

**Commission of Ohio Docketing Information System on** 

5/31/2018 3:06:12 PM

in

Case No(s). 18-0872-EL-BLN

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