

PUCO Case No. 24-0688-EL-BNR

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

Submitted by: Ohio Power Company

#### **CONSTRUCTION NOTICE**

#### Ohio Power Company Philo-Crooksville and Philo-Rutland 138 kV Structure Addition Project

#### 4906-6-05

Ohio Power Company ("AEP" or the "Company") 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.

The Company is proposing the Philo-Crooksville and Philo-Rutland 138 kilovolt (kV) Structure Addition Project (the "Project") in the Village of Crooksville in Perry County, Ohio (OH). Approximately 1 mile south of the Crooksville Station, three transmission lines converge onto a single pole. As part of the Crooksville-Philo South 138 kV Transmission Line Rebuild Project (approved in Case No. 21-1112-EL-BLN), the Company identified the need to separate the three transmission line assets onto separate poles for operational flexibility and safety. One of the three poles required to separate the transmission lines was previously approved by the OPSB in the Crooksville-Philo South 138 kV Transmission Line Rebuild Project. The subject of this filing involves installing a single structure along both the Philo-Crooksville and Philo-Rutland 138 kV transmission lines. The Project will be constructed within an existing 100-foot-wide right-of-way ("ROW") with additional supplemental easements as needed to accommodate blowout. The location of the Project is shown on Maps 1 and 2 in Appendix A.

The Project meets the requirements for a Construction Notice ("CN") because it is within the types of projects defined by Item (2)(a) of *Appendix A* to O.A.C. 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

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

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

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

The existing Philo-Rutland 138 kV Transmission Line is approximately 13.5 miles long and consists of a 6-wire, single circuit configuration. The Philo-Rutland 138 kV line was originally constructed in 1925 with 2-397.5 & 636 KCM ACSR conductors and steel lattice structures. Nearly all of the approximately 13.5 miles of line still utilizes the original conductor.

There are several asset renewal concerns on this transmission line, including burned insulators and damaged shield wire. Pre-1930's vintage lattice transmission towers were not designed for modern wind and ice loading requirements and lack adequate lightning protection. The nearly 100-year old towers have well exceeded the 70 year typical lifespan for this type of structure. In addition, these lines pose increased risk of failure due to the loss of strength identified with similar constructed lines.

The overall deterioration of the line is an indicator of the need to rebuild the asset rather than repair it. The circuit serves approximately 5.156 MW (1,794 customers) for Guernsey-Muskingum Co-Op at Cannelville Switch, who presently are at increased risk of outages. Failure to move forward with the Project will place these customers at increased risk of outages due to the condition and deterioration of the line. Over the past five years, these customers have been subject to 320,767 customer minutes of interruption.

This Project need was presented to PJM on 2/21/2020 and the solution was presented on 03/19/2020. Subsequently, a supplemental Project ID was assigned by PJM (#s2223). The Project was included in the AEP Transmission Company's 2024 Long Term Forecast Report Table FE-T9 pages 34-35 (see Appendix B).

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

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

Map 1 in Appendix A shows the location of the Project in relation to existing transmission facilities on a United States Geological Survey 1:24,000 topographic quadrangle (Crooksville [1977], Deavertown [1977]). Map 2 in Appendix A identifies the Project components on 2020 aerial imagery (Ohio State Imagery Program).

#### **B(4)** Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion

shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The current configuration of the three transmission lines on a single structure does not align with the Company's operational or safety standards, therefore additional structures were necessary. The Project proposes to install 2 new structures, one along each transmission line, near the existing structure and within existing ROW and supplemental easements to accommodate blowout. Installing the new structures within existing ROW allows the Company to utilize existing access, minimizes tree clearing, impacts to private properties, and aquatic and cultural resources. The Project represents the most suitable location and is the most appropriate solution for meeting the Company's needs in the area.

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

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

The Company maintains a website (http://aeptransmission.com/ohio/) on which an electronic copy of this CN is available. An electronic copy of the CN will be served to the public library in each political subdivision affected by this Project. The Company also retains land agents who will 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 inservice date of the project.

The Company anticipates construction of the Project to begin in October 2024 and be in-service in December 2024.

#### B(7) Area Map

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

Map 1 included in Appendix A identifies the location of the Project area on a United States Geological Survey 1:24,000 quadrangle maps (Crooksville [1977], Deavertown [1977]). Map 2 in Appendix A includes a 2020 aerial map of the Project area (Ohio State Imagery Program).

To visit the Project from Columbus, take I-70 E towards Wheeling, West Virginia. Continue on I-70 for approximately 30 miles. Taking exit 132 for OH-13 (Newark/Thornville). Turn right onto OH-13 S (Jacksontown Road) and travel approximately 15 miles to OH-669 E and continue

approximately 4 miles to OH-93. Turn right onto OH-669 E/OH-93 S, travel 0.5 mile to West Main Street. Continue on West Main Street 0.5 mile to South State Street. Veer right onto South State Street and travel 0.75 mile to Brown Circle Drive. Turn left onto Brown Circle Drive and the Project will be to the north at 39.759240° N, -82.085998° W.

#### **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 table below identifies the property parcel numbers and an indication as to whether the easement/option necessary to construct and operate the facility has been obtained.

Property Parcel Number	Easement Agreement/Option Obtained (Yes/No)
11009225000	Yes
110015150000	Yes
070000030000	Yes
070000030100	Yes

#### **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 Philo-Crooksville 138 kV Transmission Line (Structure 64B) is planned to include:

Voltage: 138 kV

Conductors: 336.4 kcmil 30/7 Strands ORIOLE ACSR; 397.5 kcmil 30/7 Strands LARK

Static Wire: 159 kcmil 12/7 GUINEA & 7#8 Alumoweld

Insulators: Polymer ROW Width: 100 feet

Structure Types: One (1) Steel Monopole Dead End, Double Circuit

The Philo-Rutland 138 kV Transmission Line (Structure 64C) is planned to include:

Voltage: 138 kV

Conductors: 556.5 kcmil 26/7 Strands DOVE ASCR; 636 kcmil 26/7 Strands

GROSEBEAK ASCR

Static Wire: 7#8 Alumoweld

Insulators: Polymer ROW Width: 100 feet

Structure Types: One (1) Steel Monopole Dead End, Single Circuit

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

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

#### i) Calculated Electric and Magnetic Field Levels

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

EMF levels were computed one meter above ground under the line and at the ROW edges (50/50 feet, left/right, of centerline).

Results calculated using EPRI's EMF Workstation 2015 software are summarized below:

Clouse-Zanesville 138 kV Line (64B-63: Double Circuit)					
Condition	Phase current (A)	Phasing Arrangements	Sag (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Max. Loading^	233.87	A-B-C/ A-B-C	53.62/ 52.83	0.246/1.075/0.248	12.16/20.16/12.07
(2) Emergency Line Loading^^	398.71	A-B-C/ A-B-C	65.74/ 64.92	0.186/1.661/0.189	26.72/53.19/26.46
(3) Winter Conductor Rating^^^	790.72	A-B-C/ A-B-C	53.62/ 52.83	0.246/1.075/0.248	41.12/68.15/40.79

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

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

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

<sup>\*</sup>EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and 1.0 P.U. Voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.

Clouse-Zanesville 138 kV Line (1-64B)					
Condition	Phase current (A)	Phasing Arrangements	Sag (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Max. Loading^	233.87 A-B-C 34.92		0.183/0.356/0.109	5.01/6.41/3.77	
(2) Emergency Line Loading^^	398.71	A-B-C	46.14	0.194/0.480/0.097	10.84/15.09/7.63
(3) Winter Conductor Rating^^^	790.72	A-B-C	34.92	0.183/0.356/0.109	16.94/21.66/12.74

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

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

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

<sup>\*</sup>EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and 1.0 P.U. Voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.

Crooksville-Lemaster-Strouds Run 138 kV Line (65-64C)					
Condition	Phase current (A)	Phasing Arrangements	Ground Clearance (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Max. Loading^	265.04	A-B-C	22.32	0.083/0.731/0.083	6.37/14.07/6.37
(2) Emergency Line Loading^^	502.46	A-B-C	30	0.039/1.019/0.039	13.96/38.50/13.96
(3) Winter Conductor Rating^^^	1175.62	A-B-C	22.32	0.083/0.731/0.083	28.26/62.42/28.26

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

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

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

<sup>\*</sup>EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and 1.0 P.U. Voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.

Crooksville-Lemaster-Strouds Run 138 kV Line (64C-65)					
Condition	Phase current (A)	Phasing Arrangements	Ground Clearance (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Max. Loading^	265.04	А-В-С	21.32	0.061/0.676/0.061	6.21/13.44/6.21
(2) Emergency Line Loading^^	502.46	A-B-C	30.7	0.038/1.035/0.038	14.08/39.93/14.08
(3) Winter Conductor Rating^^^	1175.62	A-B-C	21.32	0.061/0.676/0.061	27.56/59.60/27.56

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

For power-frequency EMF, IEEE Standard C95.6TM-2002 recommends the following limits:

		Controlled Environment	
Electric Field Limit (kV/m)	5.0	20.0	
Magnetic Field Limit (mG)	9040	27,100	

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

#### ii) Design Alternatives

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

Design alternatives were not considered due to EMF strength levels. Transmission lines, when energized, generate EMF. Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on

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

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

<sup>\*</sup>EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and 1.0 P.U. Voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.

human health. However, some people are concerned that EMF have impacts on human health. Due to these concerns, EMF associated with the new circuits was calculated and set forth in the table above. The EMF was computed in a manner to maximize the estimate, assuming the highest reasonable input values based on conditions along the proposed transmission line rebuild. Normal daily EMF levels would be less than these, which were calculated at maximum load conditions. Based on studies from the National Institutes of Health, the magnetic field (measured in milliGauss, or mG) associated with emergency loading at the highest EMF value for this transmission line is lower than those associated with normal household appliances like microwave ovens, electric shavers and hair dryers. For additional information regarding EMF, the National Institutes of Health has posted information on their website:

http://www.niehs.nih.gov/health/topics/agents/emf/. Additionally, information on electric and magnetic fields is available on the Company's website: https://www.aepohio.com/community/education/emf . The information found on the Company's website describes the basics of electromagnetic field theory, scientific research activities, and EMF exposures encountered in everyday life. Similar material will be made available for those affected by the construction activities for this Project.

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

#### The estimated capital cost of the project.

The estimated cost of the Project, comprised of applicable tangible and capital costs, is approximately \$550,000 (Class 3). Pursuant to the PJM OATT, the costs for this Project will be recovered in the Ohio Power Company's FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

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

The applicant shall describe the social and ecological impacts of the project. B(10)(a) Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is located in the Village of Crooksville in Perry County, Ohio. Land use in the Project area within the Village of Crooksville consists of medium-density residential and public housing communities. The Project crosses through the James Brown Terrace Heights public housing community, a Perry Metropolitan Housing Authority development, within the Village of Crooksville. The Project plans to rebuild the transmission line within the existing ROW, so no new easements will be required, and no additional impacts are anticipated.

#### 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.

According to the Perry County Auditor's Office as of June 5, 2024, the Project does not cross registered Agricultural District land. The Project does not cross active agricultural row crop land (Appendix A, Map 2), therefore, impacts to agricultural uses are not anticipated.

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

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

A cultural resource survey and report were conducted by the Company's consultant for the Project. Correspondence form the State Historic Preservation Office ("SHPO") was received in July and December 2020, see Appendix D. The SHPO stated that the Project will have no adverse effect on historic properties and that no further archaeological work is necessary.

#### 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 ("NOI") was filed with the Ohio Environmental Protection Agency ("OEPA") for authorization of construction storm water discharge under General Permit OHCooooo6. Permit oGCo3920\*BG was renewed by the OEPA on August 8, 2023. The Company will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan ("SWP3") to minimize erosion and sediment to Project surface water quality during storm events. If necessary, the SWP3 will be revised to include the construction areas for the Project. If the expanded construction area increases the Limits of Disturbance beyond the permitted acreage limit, the Company will submit a SWP3 amendment to the OEPA for approval prior to the start of construction.

The Company's consultant completed wetland delineation and stream identification field reviews for the Project in May 2020. Forty-seven streams and twelve wetlands were identified within the study area for the Crooksville-Philo South 138 kV Transmission line, however only one stream is

within the Project area. The stream will either be aerially spanned, crossed by an air bridge, or avoided all together.

The Project is not located in a Federal Emergency Management Agency ("FEMA") 100-year floodplain area (FIRM Panel 39127C0164D [effective date 04/18/2011]). Therefore, no floodplain permitting is anticipated for the Project. These resources are shown on Figure 2 in Appendix D.

Coordination with the Federal Aviation Administration ("FAA") will not be required, as there are no known airports or heliports within five miles of the Project.

In addition to easement acquisition, state and local road permits or bonds could be required. Coordination with these stakeholders is necessary to identify the authorization requirements and timeframes.

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

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

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

A coordination letter was submitted to the United States Fish and Wildlife Service ("USFWS") Ohio Ecological Services Field Office on July 9, 2020, seeking technical assistance on the Project for potential impacts to threatened or endangered species. In a response email dated July 15, 2020, the USFWS noted the potential for the Indiana bat and northern long-eared bat to occur within the Project area. The USFWS recommended that if tree removal was required for the Project, it be limited to the time between October 1 and March 31 to avoid the potential for take of the Indiana bat and northern long-eared bat. The Company does not anticipate the need to clear trees as the Project is located in an open lawn area.

The USFWS stated that due to the Project type, size, and location, no other impacts to federally endangered, threatened, or proposed species or designated critical habitat are anticipated.

A coordination letter was submitted to the Ohio Department of Natural Resources ("ODNR") Division of Wildlife ("DOW") on July 9, 2020, seeking technical assistance for potential impacts to threatened or endangered species in the vicinity of the Project area. In a response received on September 17, 2020, ODNR-DOW noted the potential for the Indiana bat, northern long-eared bat, little brown bat and tri-colored bat to occur within the Project area. ODNR-DOW recommended that if tree removal was required for the Project, it be limited to the time between

October 1 and March 31 to avoid potential for take of these state-listed species. ODNR-DOW also recommended conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq$  20 if possible. The Company does not anticipate the need to clear trees as the Project is located in an open lawn area.

ODNR-DOW also noted the potential for the Black Tern, Northern Harrier, Sandhill Crane and Trumpeter Swan bird species to be present in the Project area. Suitable habitat for the Black Tern, Sandhill Crane, and Trumpeter Swan were not identified during field survey and therefore the Project is not likely to impact these species. Habitat for the Northern Harrier was identified in the broader Crooksville-Philo South 138 kV Transmission Line Project, however, there is no habitat situated within the Project area, therefore no impacts are anticipated to the Northern Harrier.

ODNR-DOW noted the potential for eleven mussel species, two amphibian species, and six fish species to be present in the Project area; however, impacts to these species are not anticipated as no in-water work is proposed for the Project.

Coordination letters from USFWS and ODNR-DOW are provided in Appendix C.

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

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

Coordination letters were submitted to the USFWS and ODNR requesting a review of the Project and identification of areas of ecological concern. The USFWS response dated July 15, 2020 (Appendix C), indicated there are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the Project. The ODNR response received on September 17, 2020 (Appendix C) indicated that according to the Ohio Natural Heritage Database (ODNR), no known unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas are located within the Project area.

A review of the National Conservation Easement Database, Land and Water Conservation Fund Database, and the USACE Regulatory In-lieu Fee and Bank Information Tracking System did not identify mapped easements or mitigation sites in the Project area.

The Project does not cross a FEMA 100-year floodplain area. Therefore, no floodplain permitting is anticipated for the Project. These resources are shown on Figure 2 in Appendix D.

In May of 2020, the Company's consultant completed wetland delineation and stream identification field reviews within a 200-foot-wide corridor for the existing and proposed transmission line centerline, which included the existing ROW – this report was completed for the 21-1112-El-BLN filing. The May 2020 field review included the area subject to this filing. The results of the survey are presented in the Ecological Survey Report included in Appendix D. One intermittent stream, S047, was identified within the Project area. The Philo-Rutland and Philo-Crooksville 138 kV transmission lines currently span this stream aerially. The new alignments for the Philo-Crooksville and Philo-Rutland lines will also span this stream aerially upon the installations of Structures 64B and 64C respectively. For construction activities, if a stream crossing is necessary, the stream would be crossed by an airbridge; however, a crossing will most likely not be needed. No impact to this stream is anticipated.

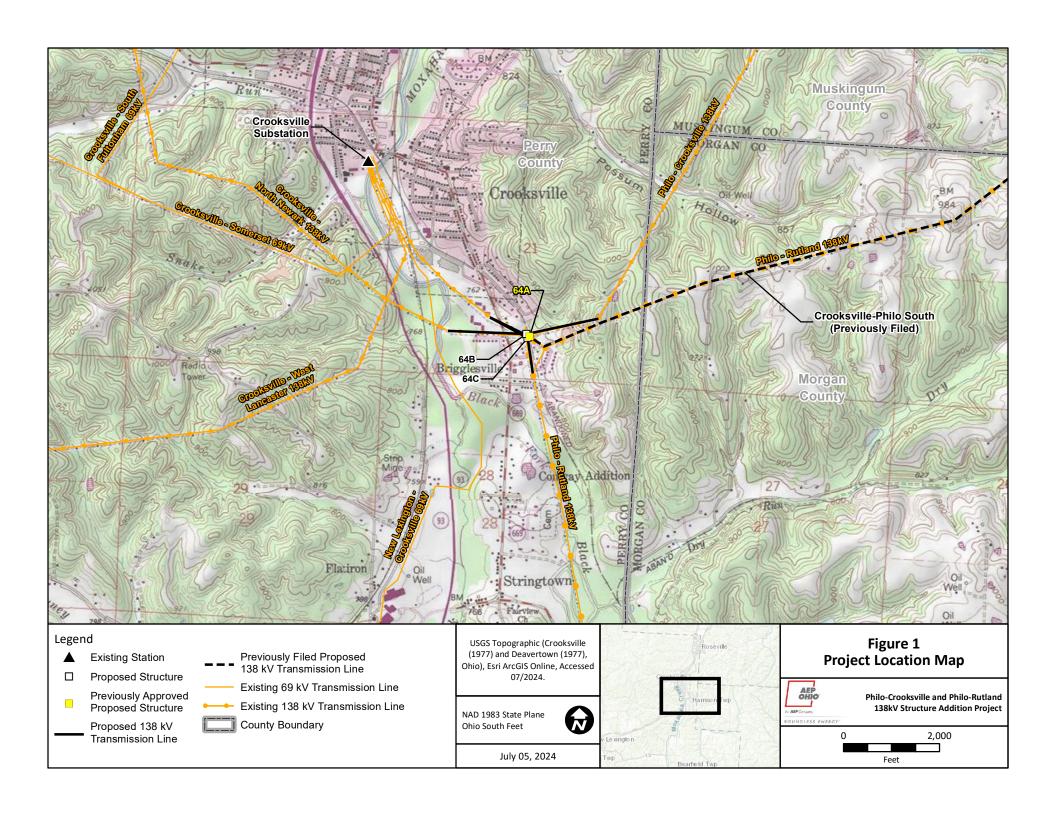
#### **B(10)(g) Unusual Conditions**

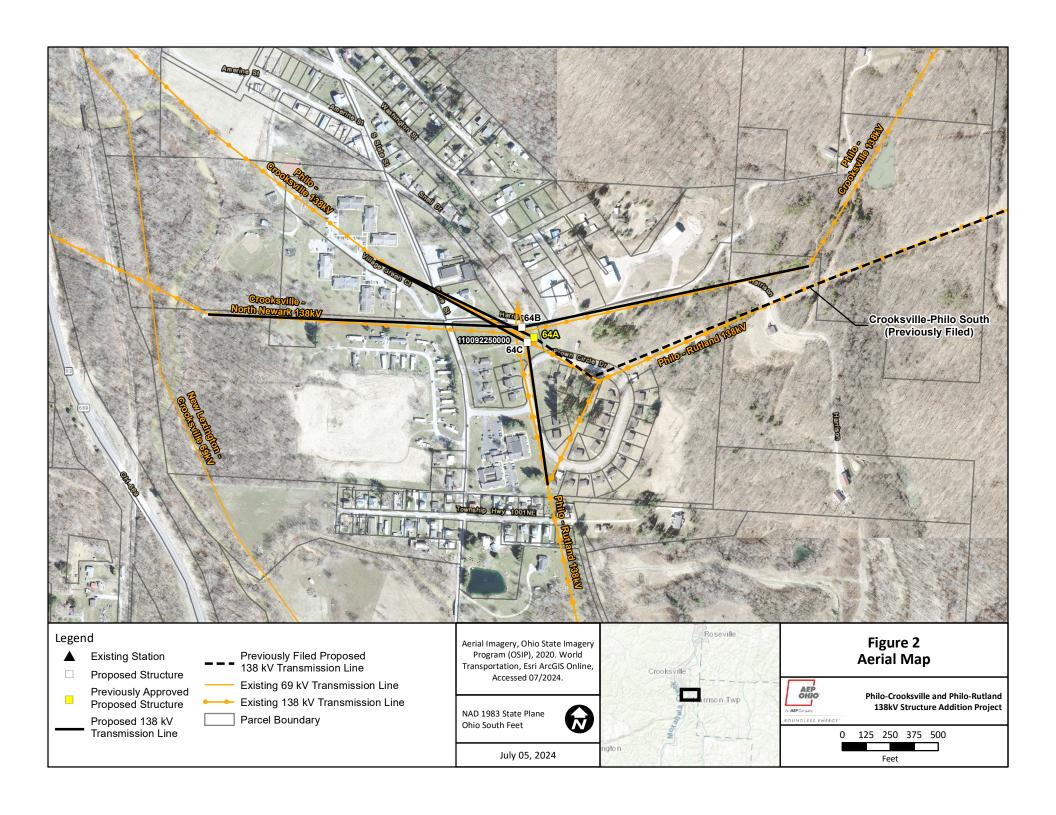
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of the Company's knowledge, no unusual conditions exist that would result in substantial environmental, social, health, or safety impacts.

# **APPENDIX A**

Project Maps





# **APPENDIX B**

PJM Interconnection Submittal

# PUCO Form FE-T9 AEP Ohio Transmission Company Specifications of Planned Transmission Lines

1	LINE NAME AND NUMBER:	Crooksville - Philo (s2223), TP2019113
2	POINTS OF ORIGIN AND TERMINATION	Crooksville, Philo INTERMEDIATE STATION - Cannelville SW
3	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	13 mi / 100 ft / 1 circuit
4	VOLTAGE: DESIGN / OPERATE	138 kV/ 138 kV
5	APPLICATION FOR CERTIFICATE:	11/9/2022
6	CONSTRUCTION:	2023-2024
7	CAPITAL INVESTMENT:	\$25M
8	PLANNED SUBSTATION:	N/A
9	SUPPORTING STRUCTURES:	Steel
10	PARTICIPATION WITH OTHER UTILITIES	N/A
11	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 138 kV line
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure.
13	MISCELLANEOUS:	



## AEP Transmission Zone M-3 Process Crooksville-Philo 138kV Circuit Rebuild

Need Number: AEP-2020-OH004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 05/11/2020

**Previously Presented:**Needs Meeting 2/21/2020
Solutions Meeting 3/19/2020

**Project Driver:** 

Equipment Material/Condition/Performance/Risk

**Specific Assumption Reference:** 

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 8), AEP Presentation on Pre-1930s Lines

**Problem Statement:** 

Crooksville – Philo 138kV

Length: 13 Miles

Original Construction Type: Aluminum/Steel Lattice

Original Conductor Type: 397.5 ACSR Lark / 636 ACSR Grosbeak (vintage 1926)

Momentary/Permanent Outages: 1 total outages

CMI: 320,767

Number of open conditions: 5

Total structure count: 65

Open conditions include: Burnt insulators, damaged shield wire

Please reference assumptions materials on pre-1930s era lattice lines





## AEP Transmission Zone M-3 Process Crooksville-Philo 138kV Circuit Rebuild

Need Number: AEP-2020-OH004

**Process Stage:** Submission of Supplemental Project for

inclusion in the Local Plan 05/11/2020

#### **Selected Solution:**

 Rebuild ~12 miles of the Crooksville – Philo 138kV circuit. (s2223.1) Estimated Cost: \$29.8M

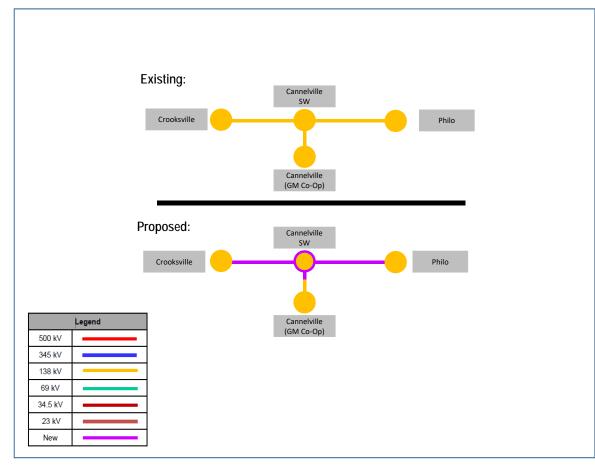
Replace Cannelville Switch with a new phase-over-phase switch. Relocate the existing Cannesvsille –
Guernsey-Muskingum Co-op 138kV line to new
Cannelville Switch. The switch needs to be relocated to maintain service to the customer while the line is being rebuilt. (s2223.2) Estimated Cost: \$1.1M

Estimated Cost: \$30.9M

Projected In-Service: 9/30/2022 Supplemental Project ID: s2223

**Project Status:** Engineering

Model: N/A



# **APPENDIX C**

Agency Correspondence



In reply, refer to 2020-MLT-48961

July 17, 2020

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

RE: Philo-Cannelsville 138kV Transmission Line Rebuild Project, Perry, Morgan, and Muskingum Counties, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on June 29, 2020 regarding the proposed Philo-Cannelsville 138kV Transmission Line Rebuild Project, Perry, Morgan, and Muskingum Counties, 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 4906-5). 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 *Phase I Archaeological Investigations for the Approximately 20.9 km (13 mi) Philo-Cannelsville 138kV Transmission Line Rebuild Project in Perry, Morgan, and Muskingum Counties, Ohio* by Weller & Associates, Inc. (2020).

A literature review, visual inspection, shovel probe and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area. Two (2) new archaeological sites were identified during survey. Ohio Archaeological Inventory (OAI) #33MU1620 and 33MU1621 are small prehistoric lithic scatters. They sites recommended not eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with this recommendation and no additional archaeological investigations are needed.

The following comments pertain to the History/Architecture Investigations for the 13.0 km (20.9 mi) Philo-Cannelsville 138 kV Rebuild Project in Perry, Morgan, and Muskingum Counties, Ohio by Weller & Associates, Inc. (2020).

A literature review and field survey were completed as part of the investigations. Two National Register-listed resources, four Ohio Historic Inventory resources, and 108 resources 50 years of age or older were identified within the Area of Potential Effects.

It is Weller's recommendation that one of the previously recorded Ohio Historic Inventory properties (PER0002606) is eligible for inclusion in the National Register of Historic Places under Criterion C. Our office agrees with Weller's recommendation regarding eligibility.

Based on the information provided, the project corridor will be relatively unobstructed and visible from a majority of the identified historic properties. The existing nature of the project and proposed rebuild should not impact the significance or integrity of these historic properties in a way that would alter their National Register status or eligibility. Therefore, we agree that the project as proposed will have no adverse effect on historic properties.

Based on the information provided, we agree that the project as proposed 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 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>, or Joy Williams at <a href="mailto:jwilliams@ohiohistory.org">jwilliams@ohiohistory.org</a>. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager Resource Protection and Review

RPR Serial No: 1084713-1084714



In reply, refer to 2020-MLT-48961

December 29, 2020

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

RE: Philo-Crooksville 138kV Transmission Line Rebuild Project, Perry, Morgan, and Muskingum Counties,

Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on December 29, 2020 (originally June 29, 2020) regarding the proposed Philo-Crooksville 138kV Transmission Line Rebuild Project, Perry, Morgan, and Muskingum Counties, Ohio. Revised reports were provided to our office because the name of the project, originally the Philo-Cannel sville 138kV Transmission Line Rebuild Project, was changed. 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 4906-5). 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 *Phase I Archaeological Investigations for the Approximately 20.9 km (13 mi) Philo-Crooksville 138kV Transmission Line Rebuild Project in Perry, Morgan, and Muskingum Counties, Ohio* by Weller & Associates, Inc. (2020).

A literature review, visual inspection, shovel probe and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area. Two (2) new archaeological sites were identified during survey. Ohio Archaeological Inventory (OAI) #33MU1620 and 33MU1621 are small prehistoric lithic scatters. The sites are recommended not eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with this recommendation and no additional archaeological investigations are needed.

The following comments pertain to the *History/Architecture Investigations for the 13.0 km (20.9 mi) Philo-Crooksville 138 kV Rebuild Project in Perry, Morgan, and Muskingum Counties, Ohio* by Weller & Associates, Inc. (2020).

A literature review and field survey were completed as part of the investigations. Two National Register-listed resources, four Ohio Historic Inventory resources, and 108 resources 50 years of age or older were identified within the Area of Potential Effects.

It is Weller's recommendation that one of the previously recorded Ohio Historic Inventory properties (PER0002606) is eligible for inclusion in the National Register of Historic Places under Criterion C. Our office agrees with Weller's recommendation regarding eligibility. Based on the information provided, the project corridor will be relatively unobstructed and visible from a majority of the identified historic properties. The existing nature of the project and proposed rebuild should not impact the significance or integrity of these historic properties in a way that would alter their National Register status or eligibility. Therefore, we agree that the project as proposed will have no adverse effect on historic properties.

RPR Serial No: 1084713, 1084714, 1086717

Based on the information provided, we agree that the project as proposed 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 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>, or Joy Williams at <a href="mailto:jwilliams@ohiohistory.org">jwilliams@ohiohistory.org</a>. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager

Resource Protection and Review

RPR Serial No: 1084713, 1084714, 1086717

From: Ohio, FW3 <ohio@fws.gov>

**Sent:** Wednesday, July 15, 2020 8:31 AM **To:** Kristen Vonderwish; Joshua Noble

Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate

Subject: AEP Crooksvills - Philo 138 kV Line Rebuild, Perry, Morgan, and

Muskingum Co

#### EXTERNAL E-MAIL MESSAGE



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



TAILS# 03E15000-2020-TA-1809

Dear Ms. Vonderwish,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (Myotis sodalis) and threatened northern long-eared bat (Myotis septentrionalis) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found 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 breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet 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, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal 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 removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is 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 <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), 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, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then 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 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. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (<a href="https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf">https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf</a>). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army 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. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or 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, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew,

Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

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

Sincerely,

Patrice M. Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW



Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229

Phone: (614) 265-6621 Fax: (614) 267-4764

September 17, 2020

Kristen Vonderwish GAI Consultants 6000 Town Center Blvd., Suite 300 Canonsburg, PA 15317

Re: 20-707; Crooksville - Philo 138 kV Line Rebuild Project

**Project:** The proposed Project involves rebuilding approximately 6.7 miles of the existing Crooksville – Philo 138 kV transmission line and the installation of a new switch at the Cannelville station.

Location: The proposed project is located in Perry, Morgan, and Muskingum Counties, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

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

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

The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (Perimyotis subflavus), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq$  20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, sarah.stankavich@dnr.state.oh.us).

The DOW also recommends that a desktop or field-based habitat assessment is conducted to determine if there are potential hibernaculum(a) present within the project area. Habitat assessments should be conducted in accordance with the current USFWS "Range-wide Indiana Bat Survey Guidelines" and submitted to Sarah Stankavich, sarah.stankavich@dnr.state.oh.us if potential hibernacula are present within .25 miles of the project area. If a potential hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species:

#### Federally Endangered

fanshell (*Cyprogenia stegaria*) sheepnose (*Plethobasus cyphyus*) snuffbox (*Epioblasma triquetra*)

#### Federally Threatened

rabbitsfoot (Quadrula cylindrica cylindrica)

#### State Endangered

long-solid (Fusconaia maculata maculata) Ohio pigtoe (Pleurobema cordatum) sharp-ridged pocketbook (Lampsilis ovata) wartyback (Quadrula nodulata),

#### State Threatened

black sandshell (Ligumia recta)

fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*)

This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2020), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. The Ohio Mussel Survey Protocol (2020) can be found at: http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/licenses%20&%20permits/OH%20Mussel%20Su rvey%20Protocol.pdf

The project is within the range of the following listed fish species:

<u>State Endangered</u> northern madtom (*Noturus stigmosus*)

#### State Threatened

American eel (Anguilla rostrata)
blue sucker (Cycleptus elongatus)
channel darter (Percina copelandi)
mountain madtom (Noturus eleutherus)
paddlefish (Polyodon spathula)

The DOW recommends no in-water work in perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

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

The project is within the range of the black tern (*Chlidonias niger*), a state endangered bird. The black tern prefers large, undisturbed inland marshes with fairly dense vegetation and pockets of open water. They nest in various kinds of marsh vegetation but cattail marshes are generally favored. Nests are built on top of muskrat houses or on top of floating vegetation. If this type of

habitat will be impacted, construction should be avoided in this habitat from April 1 to June 30 to reduce impacts to this species. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 to September 1. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List 8 16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <u>Sarah.Tebbe@dnr.state.oh.us</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)

# **APPENDIX D**

**Ecological Survey Report** 



# **Ecological Survey Report**

AEP Ohio Transmission Company Crooksville – Cannelville 138 kV Transmission Line Rebuild Project Perry, Morgan, and Muskingum Counties, Ohio

GAI Project Number: C170352.83, Task 001

November 2021

Prepared for: American Electric Power Service Corporation 8600 Smiths Mill Road New Albany, Ohio 43054

Prepared by:
GAI Consultants, Inc.
Canton Office
5299 Lauby Road, Suite 120
North Canton, Ohio 44720

Report Authors:

Kristen L. Vonderwish
Project Environmental Specialist

Joshua J. Noble, MS Senior Environmental Manager



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# 1.0 Introduction

GAI Consultants, Inc. (GAI), on behalf of American Electric Power Ohio Transmission Company, Inc. (AEP), completed an ecological survey for the Crooksville – Cannelville 138 kilovolt (kV) Line Rebuild Project (Project) located in Perry, Morgan and Muskingum Counties, Ohio (OH). The proposed Project involves rebuilding approximately 6.7 miles of the existing Philo-Rutland 138 kV transmission line and the installation of a new switch at the Cannelville Station.

Ecological surveys were conducted on May 18 - 21, 2020 and September 16 – 17, 2021. The Project study area consisted of a 200-foot-wide corridor centered along the existing transmission line and a 50-foot-wide corridor for access roads, as shown in Figure 1.

The Project study area is located within the Brush Creek (USGS HUC #050400040801), Black Fork (USGS HUC # 050400040501), and Middle Moxahala Creek (USGS HUC # 050400040503) 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 and Ohio Rapid Assessment Method for Wetlands (ORAM) Data Forms are provided in Appendix C. Ohio Environmental Protection Agency (OEPA) Primary Headwater Habitat Evaluation (HHEI) 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 Mountain 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 is 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 includes a review of the following:

- ▶ USGS 7.5-minute topographic mapping for Crooksville (USGS, 1977), Deavertown (USGS, 1977), Philo (USGS, 1977), and Rokeby Lock (USGS, 1977) (Figure 1);
- United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) mapping (USFWS, 2020) (Figure 2).
- ► Federal Emergency Management Agency (FEMA), National Flood Hazard Layer (FEMA, 2020) (Figure 2).
- United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS, 2019) soil mapping (Figure 2).

Topographic mapping is 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 is used to determine locations where probable wetlands are located based on infrared photography. Soil mapping is 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 on-site inspection, GAI staff traversed the Project study area on foot to determine if indicators of wetlands were present. When indicators of wetlands are observed, an observation point is established, and a Data Form is completed to determine if all wetland indicators are present.

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

Vegetation is characterized by four strata. This includes trees (woody plants, excluding vines, three inches or more [ $\geq$  3.0"] in diameter at breast height [DBH]), saplings/shrubs (woody plants, excluding vines, less than three inches [< 3.0"] DBH and greater than or equal to [ $\geq$ ] 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 are sampled within a 30-foot (30.0') radius, saplings and shrubs are sampled within a 15-foot (15.0') radius, and herbs are sampled within a five-foot (5.0') radius.

When evaluating an area for the presence of hydrophytes, classification of the indicator status of vegetation is 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) OBL plants occur in standing water or in saturated soils.
- ► Facultative Wetland (FACW) FACW plants occur in areas of prolonged flooding or require standing water or saturated soils but may on rare occasions, occur in non-wetlands.
- ► Facultative (FAC) FAC plants occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats.
- Facultative Upland Facultative Upland plants occur in xeric or mesic non-wetland habitats.
- Obligate Upland Obligate Upland plants rarely occur in water or saturated soils.

The presence of hydrophytic vegetation is determined by a Rapid Test, Dominance Test or Prevalence Index. The Rapid Test finds a vegetation community to be hydrophytic if all dominant species are OBL or FACW. Hydrophytic vegetation is 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 is considered present when the Prevalence Index is less than or equal to (≤) 3.0 (USACE, 2012).

To determine the presence of hydric soils, soil data is collected by digging a minimum 16 inch (16.0") deep soil pit, unless a restrictive layer is present. The soil profile is studied and described, while possible hydric indicators are examined. Soil indicators described in the Wetlands Delineation Manual and Regional Supplement are used to determine the presence of hydric soils. The presence of these indicators signifies a hydric soil.

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

Wetland boundaries are determined by looking for locations in which one of the three wetland indicators would transition into an upland characteristic. When the transition is identified, a



Data Form is completed in the Upland Area. Wetland boundaries are marked in the field using pink flagging labeled "WETLAND DELINEATION." The locations of the flags are recorded using a Global Positioning System (GPS) unit. Each wetland is codified with a unique identifier indicating the feature type and number (such as W001).

Wetlands are classified using the *Classification of Wetlands and Deepwater Habitats of the United States* 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, 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, Sections 404 and Section 401 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 is examined for the presence of mapped waterbodies including perennial and intermittent streams. In addition, the topographic mapping identifies areas likely to contain unmapped waterbodies including ephemeral streams (USGS, 1977) (Figure 1).

The OEPA 401 Water Quality Certification for the 2017 Nationwide Permits Stream Eligibility Web Map (OPEA, 2017) determined eligibility for coverage under the 401 Water Quality Certification (WQC) for the 2017 Nationwide Permits (NWPs). Furthermore, the map identifies 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, whereby waterbodies are identified. Waterbodies are identified on the morphological and hydrologic characteristics of the channel and the presence of aquatic macroinvertebrates.

When a waterbody is identified, field measurements are collected. The measurements include top of bank width, top of bank depth, pool depth, water depth, OHWM width, and OHWM depth. A detailed description of substrate composition is recorded. Waterbodies are delineated using white flagging marked with the GAI stream code (such as S001). The tops-of-bank for streams wider than 10 feet (>10.0') are delineated, while the centerline of smaller streams is delineated. The locations of the flags are recorded using a sub-meter-capable hand-held GPS unit

# 2.3 Rare, Threatened, and Endangered Species

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

#### 2.3.1 Preliminary Data Gathering

A request for review of the Ohio Natural Heritage Database is submitted to the Ohio Department of Natural Resources (ODNR) to determine if state-listed Threatened or Endangered species occur within a one-mile (1.0 mi) radius of the Project area. A request is submitted to the USFWS Ohio Ecological Services Field Office to determine if 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 traverse the study area in conjunction with the wetland and waterbody inspections to determine if suitable habitat for state- and/or federally-listed RTE species is 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 four NWI mapped wetlands within the Project study Area. Three NWI wetlands are classified as a palustrine, unconsolidated bottom, intermittently exposed, excavated (PUBGx) which corresponds to W003, W007, and W008. Pond 001 is classified as a palustrine, unconsolidated bottom, intermittently exposed, diked/impounded (PUBG), (USFWS, 2017).

#### **NWI Disposition Table**

NWI Code	NWI Description	Figure Number	Related Field Inventoried Resource (Wetland ID/Stream ID)	Comments
PUBGx	Palustrine; Unconsolidated bottom; Intermittently exposed; Excavated.	Fig. 2, Sheet 2	W003-PSS-CATMOD2	W003 appears to be an unmaintained farm pond within the review area and ROW.
PUBGx	Palustrine; Unconsolidated bottom; Intermittently exposed; Excavated.	Fig. 2, Sheet 3	W007-PUB-CATMOD2, W007-PEM-CATMOD2	W007 appears to be an unmaintained farm pond within the review area and ROW.
PUBGx	Palustrine; Unconsolidated bottom; Intermittently exposed; Excavated.	Fig. 2, Sheet 4	W008-PUB-CATMOD2	W008 appears to be an unmaintained farm pond within the review area and ROW.
PUBGh	Palustrine; Unconsolidated bottom; Intermittently exposed; Diked/Impunded	Fig. 2, Sheet 12	POH-KLV-001	POH appears to be an unmaintained farm pond primarily outside of the review area and ROW.

According to the USDA-NRCS soil mapping, forty-one (41) soil map units are located within the Project study area (Figure 2). Two soil map units (Lk- Lindside silt loam and Lm- Lobdell loam, channery substratum) are classified as hydric or are known to contain hydric inclusions.

#### 3.1.2 Onsite Inspection

Thirteen wetlands were identified and delineated within the Project study area including nine PEM wetlands, one PSS wetland, one PFO wetland, one PUB wetland, and one PEM/PUB wetland. 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 classifies waters of the United States (WOTUS) into four categories: territorial seas and traditional navigable waters (TNWs), tributaries, lakes, ponds, and impoundments of jurisdictional waters, and adjacent wetlands. Territorial seas and TNWs include large rivers and lakes and tidally-influenced waterbodies used in interstate or foreign commerce. Tributaries include naturally occurring perennial and intermittent rivers and streams that contribute surface flow to TNWs in a typical year. Tributaries also include ditches if they satisfy the flow conditions of the perennial and intermittent tributary definition, were constructed in or relocate a tributary, or were constructed in an adjacent wetland and contribute perennial or intermittent flow to a TNW in a typical year. Lakes and ponds, and impoundments of jurisdictional waters are standing bodies of open water that contribute surface water flow to a TNW or territorial sea in a typical year. Adjacent wetlands are wetlands that physically touch (abut) other jurisdictional waters or are inundated by jurisdictional waters in a typical year. Wetlands physically separated from other jurisdictional waters by an artificial berm, dike, or similar artificial feature must have a direct hydrologic surface connection to the jurisdictional water in a typical year to be considered adjacent (USACE 2019).

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 WOTUS are jurisdictional.

Wetlands that do not exhibit an association with any surface water are categorized as non-jurisdictional under present USACE guidance and policy (USACE 2019). 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.

#### 3.2 Waterbodies

#### 3.2.1 Preliminary Data Gathering

A desktop review of the available USGS topographic mapping revealed seven mapped stream segments located within the Project study area (Figure 1). A desktop review of OEPA's Stream Eligibility Web Map revealed the Project is located within watersheds categorized as "Eligible Areas" which may require 401 WQC coverage (Figure 3).

#### 3.2.2 Onsite Inspection

Forty-seven stream segments were identified and delineated within the Project study area. Fifteen stream segments were classified as having a perennial flow regime, 26 were classified as intermittent and six were classified as ephemeral. Information on the delineated waterbodies and its classification can be found in Table 2, and photographs of the identified stream 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 tributaries are considered jurisdictional.

Streams are generally defined as environmental features that have defined beds and banks, an OHWM, and contain flowing or standing waters for at least a portion of the year (USACE



2005). 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) and the revised definition of "Waters of the United States" (USACE 2019) were used to determine stream classification and flow status.

As regulated by OAC Chapter 3745-1-24, streams were also assessed according to OEPA guidance using either the HHEI for watersheds less than one square mile (<1.0 mi2) in size, or the Qualitative Habitat Evaluation Index (QHEI) for watersheds between one and twenty square miles (1.0-20.0 mi2) in size.

Although ephemeral streams are no longer regulated by the USACE, the Ohio EPA considers ephemeral streams as "waters of the state," and thus regulated according to the State's 401 Water Quality Standards.

# 3.3 Rare, Threatened, and Endangered Species

#### 3.3.1 Preliminary Data Gathering

A desktop review of ODNR, Division of Wildlife's Ohio's Listed Species revealed 337 Endangered, Threatened, Species of Concern, and Species of Interest located in OH (ODNR, 2020). Eighteen of the state-listed species are considered federally endangered, and five 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 website revealed three federally Endangered or Threatened species that may occur within the Project study area (USFWS, 2018). The list of species includes the following:

- Indiana bat (Myotis sodalis) Endangered;
- Northern long-eared bat (Myotis septentrionalis) Threatened; and
- ▶ American Burying Beetle (*Nicrophorus americanus*) Threatened.

Additionally, there are 2 migratory bird species that may occur within the Project study area.

The ODNR and USFWS consultation letters were submitted on July 9, 2020. A response from USFWS was received on July 15, 2020. A response from the ODNR was received on September 17, 2020. The USFWS and ODNR responses are included in Appendix E.

The USFWS identified that the Indiana bat and northern long-eared bat may be present in the vicinity of the Project. Potential impacts to these species will be determined by the schedule of Project construction and extent of tree clearing that is needed.

The ODNR identified eleven mussel species, six fish species, and four bird species within range of the project area. The ODNR also identified that the entire state of Ohio is within the range of the Indiana bat, the little brown bat (*Myotis lucifugus*), and the tricolored bat (*perimyotis subflavus*). Potential impacts to bat species will be determined by the schedule of Project construction and extent of tree clearing that is needed. The ODNR also recommended that no in-water work in perennial streams be conducted from April 15 to June 30 to reduce potential impacts to indigenous aquatic species and their habitat. If no in-water work in a perennial stream is anticipated, the Project is unlikely to impact aquatic species. The ODNR stated that, due to its location, the Project is not likely to impact the eastern hellbender (Cryptobranchus alleganiensis alleganiensis) and eastern spadefoot toad (Scaphiopus holbrookii). A list of RTE species identified by the ODNR and USFWS responses is included as Table 3.



#### 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 maintained transmission line right-of-way bordered by mixed deciduous forest, open fields, residential and industrial properties and PEM/PUB/PSS/PFO wetlands. Fifteen perennial, 26 intermittent and six ephemeral streams were identified within the study area. Representative photographs of the identified habitat types are included in Appendix A.

# 4.0 Conclusions

Ecological surveys were conducted within the Project study area on May 18 - 21, 2020 and September 16 – 17, 2021. Forty-seven streams (15 perennial, 26 intermittent, and six ephemeral) were identified within the Project study area. Thirteen wetlands were 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 Jurisdictional Determination (JD) process.



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United States Geological Survey. 1977. Philo, Ohio 7.5-Minute Topographic Quadrangle (1:24,000).



# **TABLES**



Table 1
Wetlands Identified Within the Project Study Area

	Loc	ation			Delineated		ORAM	Nearest	Existing	Proposed	Structure	Proposed	Impacts
Wetland ID <sup>1</sup>	Latitude <sup>2</sup>	Longitude <sup>2</sup>	Isolated?	Habitat Type <sup>3</sup>	Area (acre) <sup>4</sup>	Score⁵	Category <sup>6</sup>	Structure # (Existing / Proposed)	Structure # in Wetland	Structure # in Wetland	Installation Method	Temporary Matting Area (acre)	Permanent Impact Area (acre)
W001-PEM-CAT2	39.810518	-81.986415	No	PEM	0.069	31	2	33 / 33	N/A	N/A	N/A	0.00	0.00
W002-PEM-CATMOD2	39.809477	-81.987859	No	PEM	0.042	40	Modified 2	34 / 34	N/A	N/A	N/A	0.00	0.00
W003-PSS-CATMOD2	39.806806	-81.992889	No	PSS	0.296	43	Modified 2	35 / 35	N/A	N/A	N/A	0.00	0.00
W004-PEM-CAT2	39.806671	-81.994349	No	PEM	0.120	33	2	35 / 35	N/A	N/A	N/A	0.00	0.00
W005-PEM-CAT2	39.802158	-82.001771	No	PEM	0.100	32	2	39 / 39	N/A	N/A	N/A	0.001	0.00
W006-PEM-CAT2	39.801034	-82.003686	No	PEM	0.014	37	Modified 2	39 / 39 40 / 40	N/A	N/A	N/A	0.00	0.00
W007-PUB-CATMOD2	39.800009	-82.005344	No	PUB	0.110	44	M 155 1 0	40 / 40	N/A	N/A	N/A	0.00	0.00
W007-PEM-CATMOD2	39.799790	-82.005090	No	PEM	0.037	41	41 Modified 2	40 / 40	N/A	N/A	N/A	0.00	0.00
W008-PUB-CATMOD2	39.799224	-82.006545	No	PUB	0.148	43	Modified 2	41 / 41	N/A	N/A	N/A	0.00	0.00
W009-PEM-CATMOD2	39.791537	-82.016757	No	PEM	0.022	35	Modified 2	44 / 44	N/A	N/A	N/A	0.00	0.00
W010-PFO-CAT2	39.784546	-82.026647	No	PFO	0.051	49	2	48 / 48	N/A	N/A	N/A	0.00	0.00
W011-PEM-CATMOD2	39.778191	-82.034676	No	PEM	0.098	37	Modified 2	51 / 51	N/A	N/A	N/A	0.00	0.00
W012-PEM-CATMOD2	39.776881	-82.036943	No	PEM	0.023	38	Modified 2	51 / 51	N/A	N/A	N/A	0.00	0.00
W013-PEM-CATMOD2	39.775200	-82.038996	No	PEM	0.191	38	Modified 2	52 / 52	N/A	N/A	N/A	0.00	0.00
				Total:	1.321							0.001	0.00



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#### 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, PFO Palustrine Forested; PUB Palustrine Unconsolidated Bottom.
- 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.
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Table 2
Waterbodies Identified Within the Project Study Area

	Loc	Location							Field Evaluat	ion			Propose	ed Impacts
Stream ID¹	Latitude <sup>2</sup>	Longitude <sup>2</sup>	Stream Type	Stream Name	Delineated Length (feet) <sup>3</sup>	Bankfull Width (feet) <sup>4</sup>	OHWM Width (feet)	Method	Score <sup>5, 6</sup>	Category / Rating / OAC Designation <sup>7</sup>	Ohio EPA 401 Eligibility <sup>8</sup>	Stream Crossing?	Fill Type	Length (LF)
S001	39.811194	-81.983993	Perennial	UNT to Brush Creek	363.686	8	7	HHEI	62	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S002	39.810527	-81.986409	Perennial	UNT to Brush Creek	334.200	4	3.5	HHEI	43	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S003	39.808665	-81.989878	Intermittent	UNT to Brush Creek	215.255	3	2.5	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S004	39.806559	-81.993800	Intermittent	UNT to Brush Creek	324.660	3	2	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S005	39.805913	-81.994958	Perennial	Brush Creek	310.335	15	13	Chapter 3745-1-24	N/A	WWH	Eligible	No	N/A	0.00
S006	39.804966	-81.996772	Intermittent	UNT to Goose Creek	271.178	3	2.5	HHEI	27	Small Drainage Warmwater Stream	Eligible	Matted Bridge	N/A	0.00
S007	39.802600	-82.001184	Perennial	UNT to Goose Creek	214.063	5	4	HHEI	51	Small Drainage Warmwater Stream	Eligible	Matted Bridge	N/A	0.00
S008	39.801050	-82.003565	Intermittent	UNT to Goose Creek	151.091	3	2	HHEI	27	Small Drainage Warmwater Stream	Eligible	Matted Bridge	N/A	0.00
S009	39.799310	-82.005958	Perennial	UNT to Goose Creek	218.430	4	3.5	HHEI	50	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S010	39.797790	-82.007977	Perennial	UNT to Goose Creek	346.640	4	3.5	HHEI	54	Small Drainage Warmwater Stream	Eligible	Matted Bridge	N/A	0.00
S011	39.797666	-82.008567	Intermittent	UNT to Goose Creek	161.343	3	2.5	HHEI	37	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S012	39.796641	-82.009718	Ephemeral	UNT to Goose Creek	65.316	3	2	HHEI	26	Ephemeral Stream	Eligible	No	N/A	0.00
S013	39.795996	-82.010603	Ephemeral	UNT to Goose Creek	73.603	3	2	HHEI	24	Ephemeral Stream	Eligible	No	N/A	0.00
S014	39.795977	-82.010709	Ephemeral	UNT to Goose Creek	76.847	3	2	HHEI	24	Ephemeral Stream	Eligible	No	N/A	0.00
S015	39.794648	-82.011964	Ephemeral	UNT to Goose Creek	190.090	3	2.5	HHEI	24	Ephemeral Stream	Eligible	No	N/A	0.00
S016	39.794594	-82.012384	Perennial	UNT to Goose Creek	241.855	8	7	HHEI	65	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S017	39.791948	-82.016031	Perennial	UNT to Goose Creek	230.232	6	5.5	HHEI	55	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00



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S018	39.791861	-82.016358	Intermittent	UNT to Goose Creek	187.701	4	3.5	HHEI	47	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S019	39.791743	-82.016302	Intermittent	UNT to Goose Creek	101.690	3	2.5	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S020	39.791739	-82.016627	Intermittent	UNT to Goose Creek	123.932	3	2	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S021	39.787316	-82.022412	Intermittent	UNT to Goose Creek	1021.373	3	2	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S022	39.786544	-82.023718	Ephemeral	UNT to Goose Creek	106.373	2	1.5	HHEI	30	Ephemeral Stream	Eligible	No	N/A	0.00
S023	39.785981	-82.024255	Perennial	UNT to Goose Creek	278.149	5	4	HHEI	66	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S024	39.785898	-82.024402	Intermittent	UNT to Goose Creek	130.426	4	3.5	HHEI	51	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S025	39.782017	-82.029670	Perennial	UNT to Brush Creek	229.786	6	5.5	HHEI	62	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S026	39.781052	-82.031386	Intermittent	UNT to Brush Creek	73.973	3	2.5	HHEI	37	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S027	39.779960	-82.032809	Intermittent	UNT to Brush Creek	123.711	3	2.5	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S028	39.779485	-82.033486	Perennial	UNT to Brush Creek	387.112	9	8.5	HHEI	59	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S029	39.779041	-82.033589	Intermittent	UNT to Brush Creek	272.990	3	2	HHEI	24	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S030	39.775686	-82.038631	Intermittent	UNT to Brush Creek	88.654	3	2.5	HHEI	24	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S031	39.775578	-82.038826	Intermittent	UNT to Brush Creek	102.752	3	2.5	HHEI	24	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S032	39.775480	-82.038851	Intermittent	UNT to Brush Creek	97.257	3	2.5	HHEI	24	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S033	39.773401	-82.041984	Intermittent	UNT to Elk Run	144.908	3	2.5	HHEI	24	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S034	39.767922	-82.050563	Intermittent	UNT to Elk Run	70.363	3	2.5	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S035	39.767946	-82.051026	Intermittent	UNT to Elk Run	64.447	3	2.5	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S036	39.767746	-82.050776	Perennial	UNT to Elk Run	497.880	5	4.5	HHEI	49	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S037	39.767301	-82.051862	Perennial	UNT to Elk Run	237.856	5	4.5	HHEI	52	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00



S038	39.767134	-82.052259	Intermittent	UNT to Elk Run	334.516	4	3.5	HHEI	34	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S039	39.765318	-82.057817	Intermittent	UNT to Dry Run	125.656	3	2.5	HHEI	24	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S040	39.765191	-82.057884	Perennial	UNT to Dry Run	255.281	5	4.5	HHEI	49	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S041	39.764320	-82.062092	Intermittent	UNT to Dry Run	182.112	3	2.5	HHEI	30	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S042	39.761403	-82.075968	Intermittent	UNT to Dry Run	183.055	3	2.5	HHEI	34	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S043	39.760464	-82.079061	Intermittent	UNT to Dry Run	276.632	4	3.5	HHEI	37	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S044	39.760727	-82.079439	Intermittent	UNT to Dry Run	46.116	3	2	HHEI	27	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S045	39.760367	-82.079559	Perennial	UNT to Dry Run	247.914	5	4.5	HHEI	52	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
S046	39.759725	-82.082558	Ephemeral	UNT to Maxahala Creek	113.414	3	2	HHEI	22	Ephemeral Stream	Eligible	No	N/A	0.00
S047	39.759426	-82.085182	Intermittent	UNT to Maxahala Creek	991.108	5	4.5	HHEI	52	Small Drainage Warmwater Stream	Eligible	No	N/A	0.00
	Total:													0.00

#### Notes:

- <sup>1</sup> GAI map designation.
- North American Datum, 1983.
- Total stream length (in feet) located within the Project study area.
- Width in feet from tops of stream bank
- Scoring for OEPA Headwater Habitat Evaluation Index (HHEI) Primary Headwater Habitats (PHWH). Rheocrene; Ephemeral Aquatic Stream (natural channel); Ephemeral Aquatic Stream (modified channel); Small Drainage Warm Water Stream (modified channel); Spring Water Stream.
- Narrative rating for headwater streams using the OEPA Qualitative Habitat Evaluation Index (QHEI). Excellent = ≥70; Good = 55 60; Fair = 43 54; Poor = 30 42; Very Poor = <30.
- As defined by OAC Chapter 3745-1 Water Quality Standards, Water use designations and statewide criteria (OAC 3745-1-07). http://www.epa.ohio.gov/dsw/rules/3745\_1.aspx.
- As defined by the 401 WQC conditions for stream eligibility coverage under the 2017 NWP program. 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 also eligible for coverage if the HHEI score is <50, or if the HHEI score is between 50-69 and substrate composition is ≤10% coarse types (includes cumulative percentage of bedrock, boulders, boulders, boulders, and cobble).



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						
Eastern hellbender <sup>2</sup>	Cryptobranchus alleganiensis alleganiensis	Found in unglaciated (south and east) Ohio in large, swift flowing streams under large rocks	E, FSC	No	No; Per ODNR response, the project is not likely to impact this species	April 15 to June 30
Eastern Spadefoot Toad <sup>2</sup>	Scaphiopus holbrookii	Sandy soils that are associated with river valleys and flooded agricultural fields or other water holding depressions	E	No	No; Per ODNR response, the project is not likely to impact this species	-
Bats						
Indiana bat <sup>2,3</sup>	Myotis sodalis	Trees >3" dbh	E, FE	Yes	No; Per ODNR response, the project is not likely to impact this species	April 1 to September 30
Northern long-eared bat <sup>2,3</sup>	Myotis septentrionalis	Roost sites can be trees, caves, and mines	E, FT	Yes	No; Per ODNR response, the project is not likely to impact this species	April 1 to September 30
Little brown bat <sup>2</sup>	Myotis lucifugus	Roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves	E	Yes	No; Per ODNR response, the project is not likely to impact this species	April 1 to September 30
Tricolored bat <sup>2</sup>	Perimyotis subflavus	Roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves	E	Yes	No; Per ODNR response, the project is not likely to impact this species	April 1 to September 30
Birds						
Black tern <sup>2</sup>	Chlidonias niger	Large, undisturbed inland marshes with fairly dense vegetation and pockets of open water	E	No	No; Per ODNR response, the project is not likely to impact this species	April 1 to June 30
Northern Harrier <sup>2</sup>	Circus hudsonis	Large marshes and grasslands	E	No	No; Per ODNR response, the project is not likely to impact this species	May 15 to August 1
Sandhill Crane <sup>2</sup>	Grus canadensis	Large wet meadow, shallow marsh, or bog	Т	No	No; Per ODNR response, the project is not likely to impact this species	April 1 to September 1
Trumpeter Swan <sup>2</sup>	Cygnus buccinator	Large marshes and lakes ranging in size from 40 to 150 acres	Т	No	No; Per ODNR response, the project is not likely to impact this species	April 15 to June 15



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
Fish						
Northern madtom <sup>2</sup>	Noturus stigmosus	Deep swift riffles of large rivers	Е	No	No; No in-stream work is anticipated during construction	April 15 to June 30
American eel <sup>2</sup>	Anguilla rostrata	Freshwater lakes, streams, and rivers	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Blue sucker <sup>2</sup>	Cycleptus elongatus	Main stems of major rivers and lower sections of main tributaries	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Channel darter <sup>2</sup>	Percina copelandi	Rivers and large creeks in areas of moderate current over sand and gravel substrates	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Mountain madtom <sup>2</sup>	Noturus eleutherus	Deep swift riffles of large rivers	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Paddlefish <sup>2</sup>	Polyodon spathula	Large, deep, slow-moving rivers, lakes, and reservoirs	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Mussels						
Black Sandshell <sup>2</sup>	Ligumia recta	Found in varying sizes of creeks, rivers, and lakes with sand and gravel bottoms and a moderate current	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Fanshell <sup>2</sup>	Cyprogenia stegaria	Found in medium to large rivers with sand or gravel substrates and a moderate current	FE	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Sheepnose <sup>2</sup>	Plethobasus cyphyus	Found in shallow areas of larger rivers and streams with moderate to swift currents flowing over coarse sand and gravel	FE	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Snuffbox <sup>2</sup>	Epioblasma triquetra	Found in small to medium-sized creeks in areas with swift current; Can also be found in Lake Erie and some larger rivers	FE	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Rabbitsfoot <sup>2</sup>	Quadrula cylindrica cylindrica	Shallow areas with sand and gravel along the bank and next to shoals	FT	No	No; No in-stream work is anticipated during construction	April 15 to June 30
Long-solid <sup>2</sup>	Fusconaia maculata maculata	Large or small rivers with gravel substrate	E	No	No; No in-stream work is anticipated during construction	April 15 to June 30



Common Name	Scientific Name	Habitat Type	Listing Status²	Habitat Type Present Within the Project Area?	Impacts to Habitat/Species Anticipated?	Restricted Construction Dates				
Mussels (continued)										
Ohio pigtoe <sup>2</sup>	Pleurobema cordatum	Medium-sized rivers with mud, sand, gravel or cobble	E	No	No; No in-stream work is anticipated during construction	April 15 to June 30				
Sharp-ridged pocketbook <sup>2</sup>	Lampsilis ovata	Large rivers in coarse sand or gravel	E	No	No; No in-stream work is anticipated during construction	April 15 to June 30				
Wartyback <sup>2</sup>	Quadrula nodulata	Medium to large rivers with a mud, and or gravel bottom	E	No	No; No in-stream work is anticipated during construction	April 15 to June 30				
Fawnsfoot <sup>2</sup>	Truncilla donaciformis	Large to medium large rivers with mud, soft sand or gravel substrates	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30				
Threehorn wartyback <sup>2</sup>	Obliquaria reflexa	Large rivers with moderate currents and firm bottoms of gravel, sand and mud	Т	No	No; No in-stream work is anticipated during construction	April 15 to June 30				

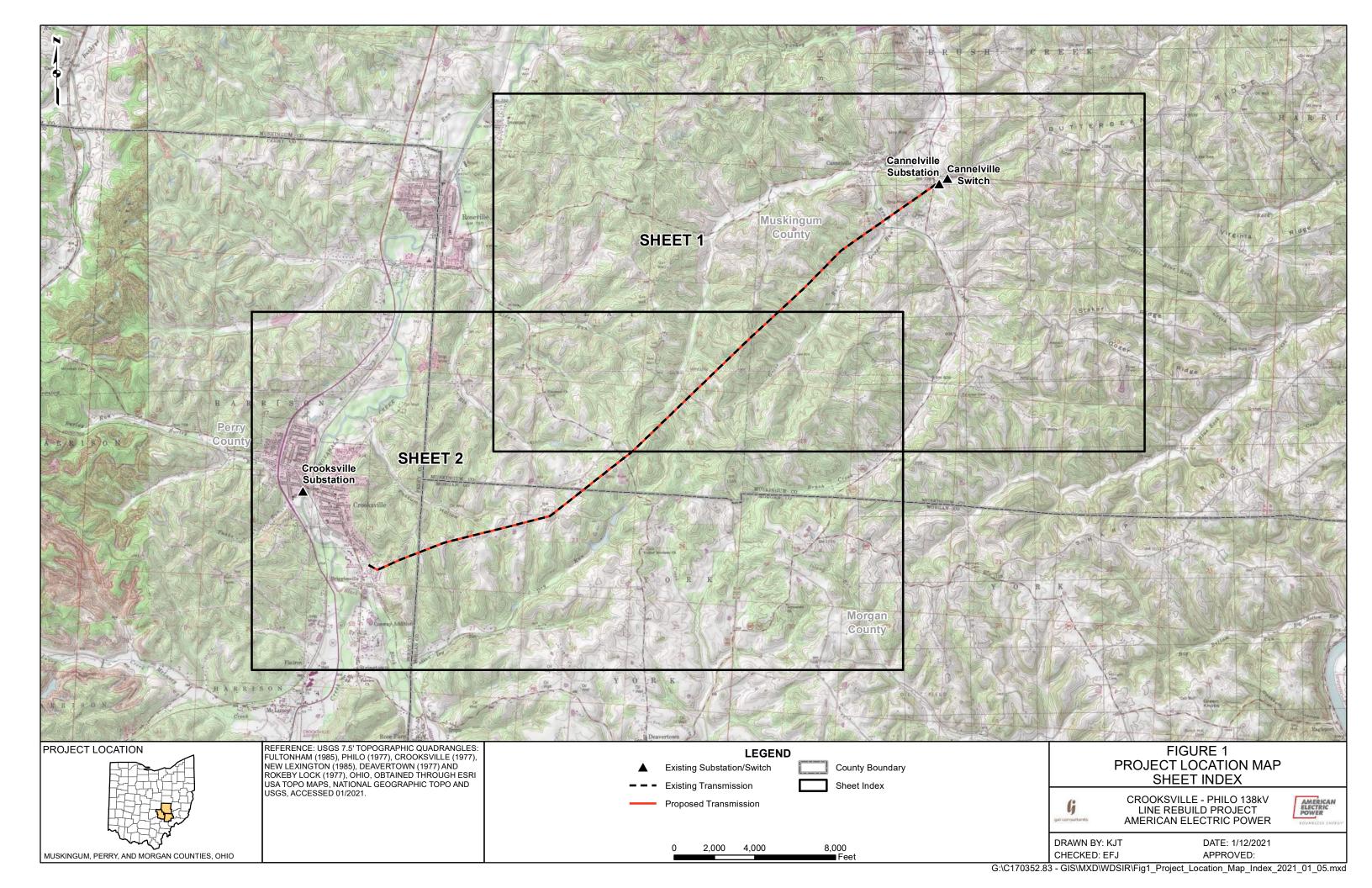
#### Notes:

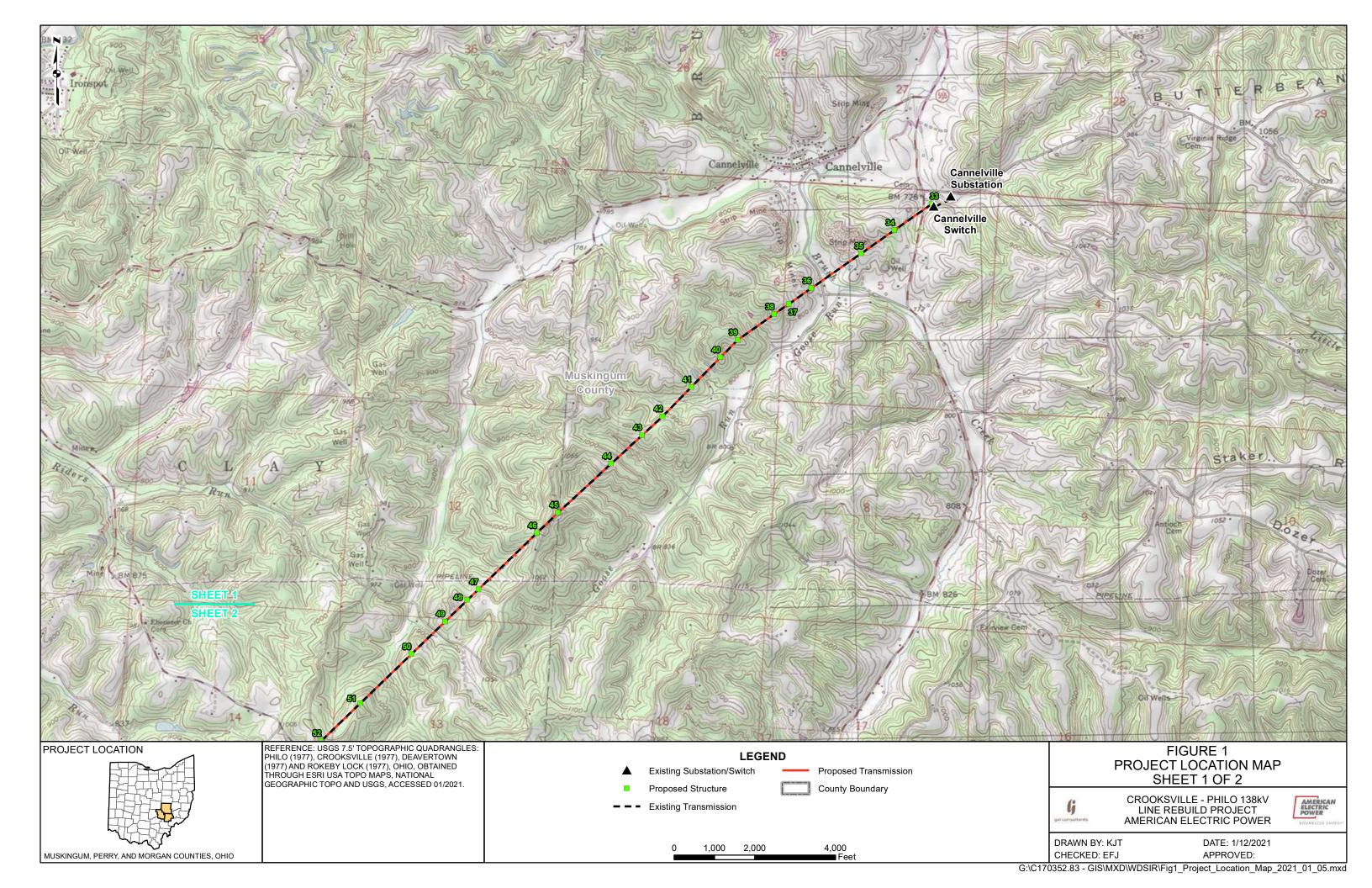
- E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; FE = federal endangered; FT = federal threatened; FSC = federal species of concern; FC = federal candidate.
- ODNR, Division of Wildlife (DOW) comments included in the ODNR response, dated September 17, 2020.
- <sup>3</sup> USFWS comments included in the USFWS response, dated July 15, 2020.

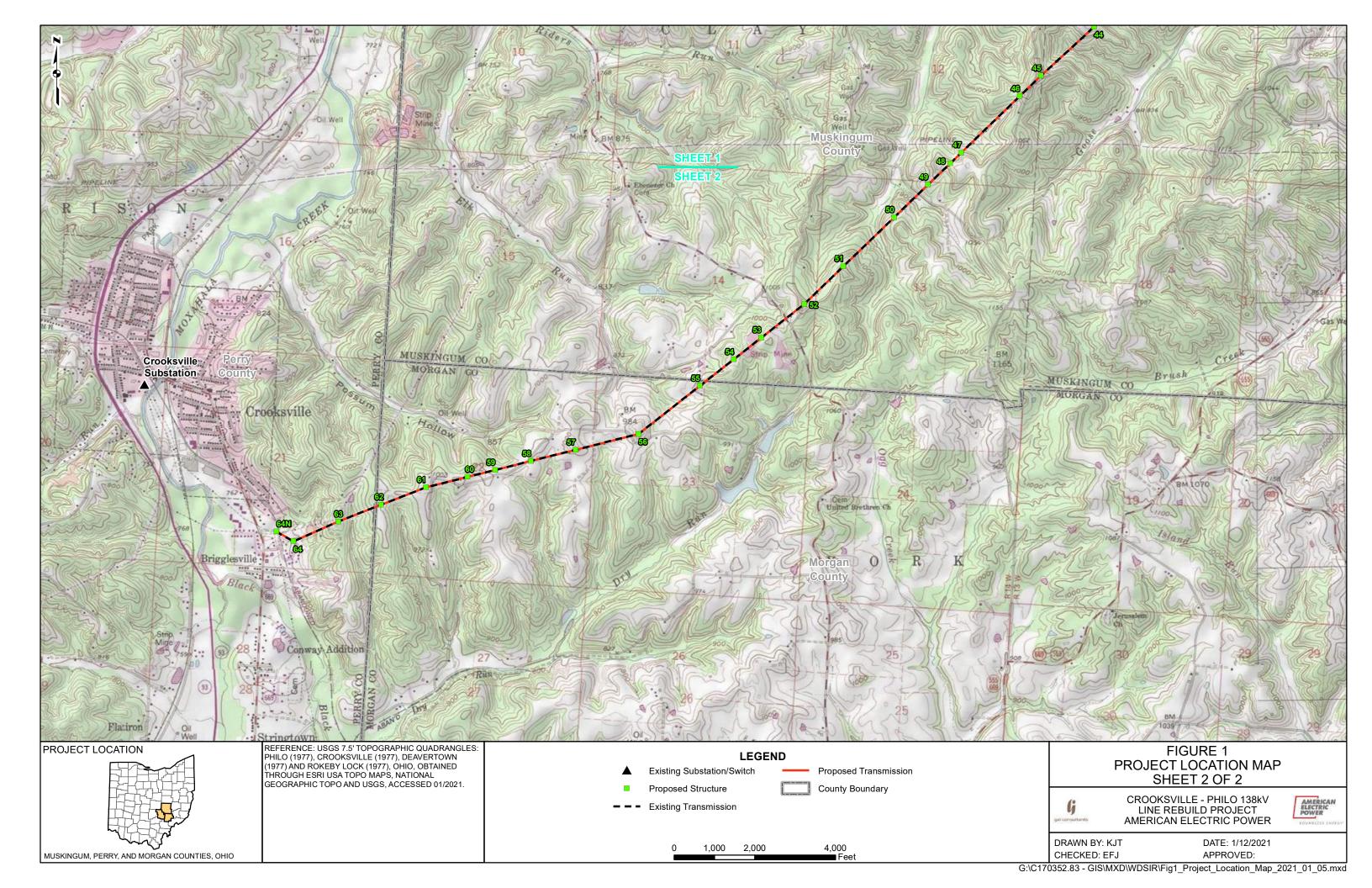


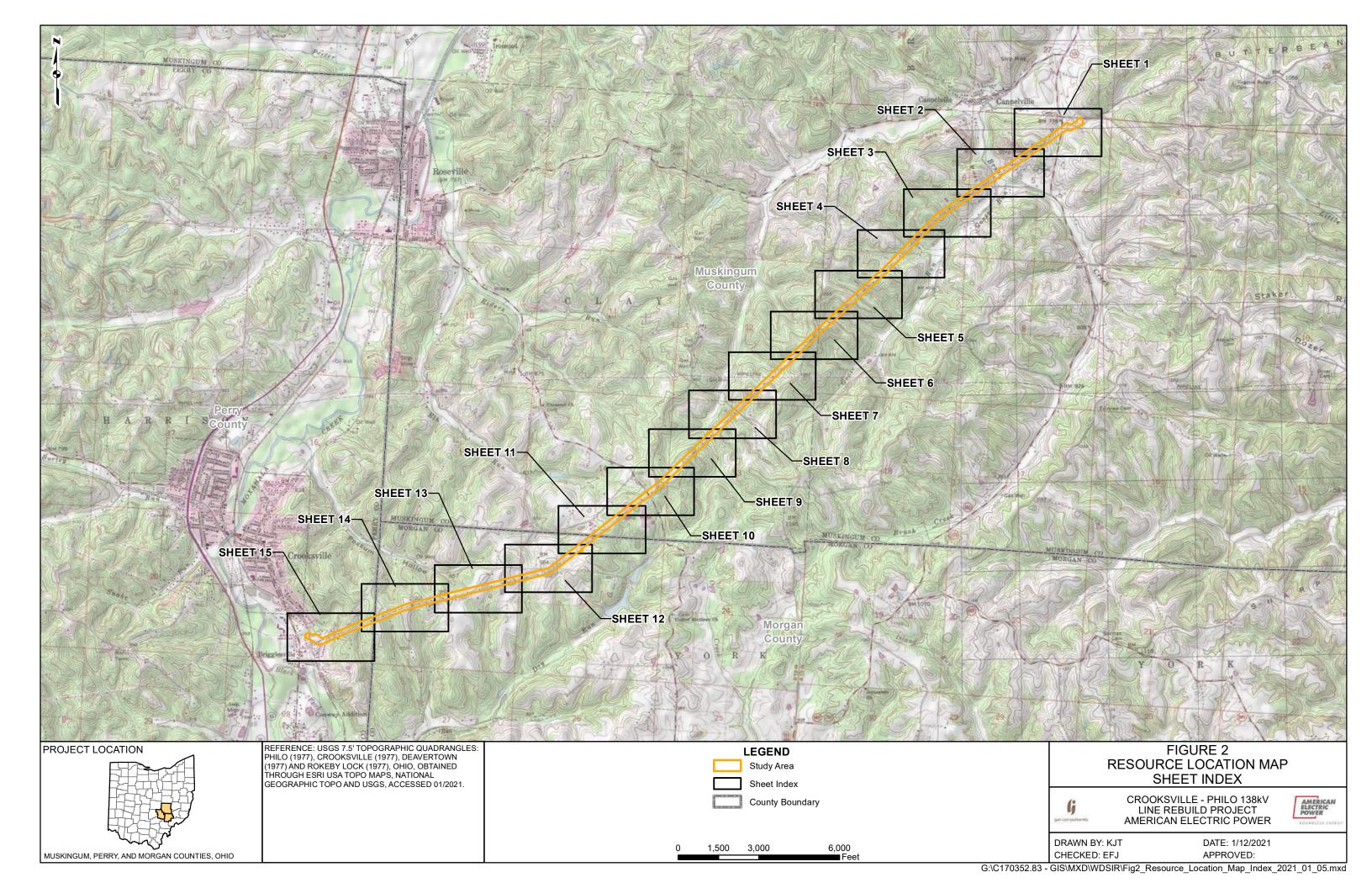
# **FIGURES**

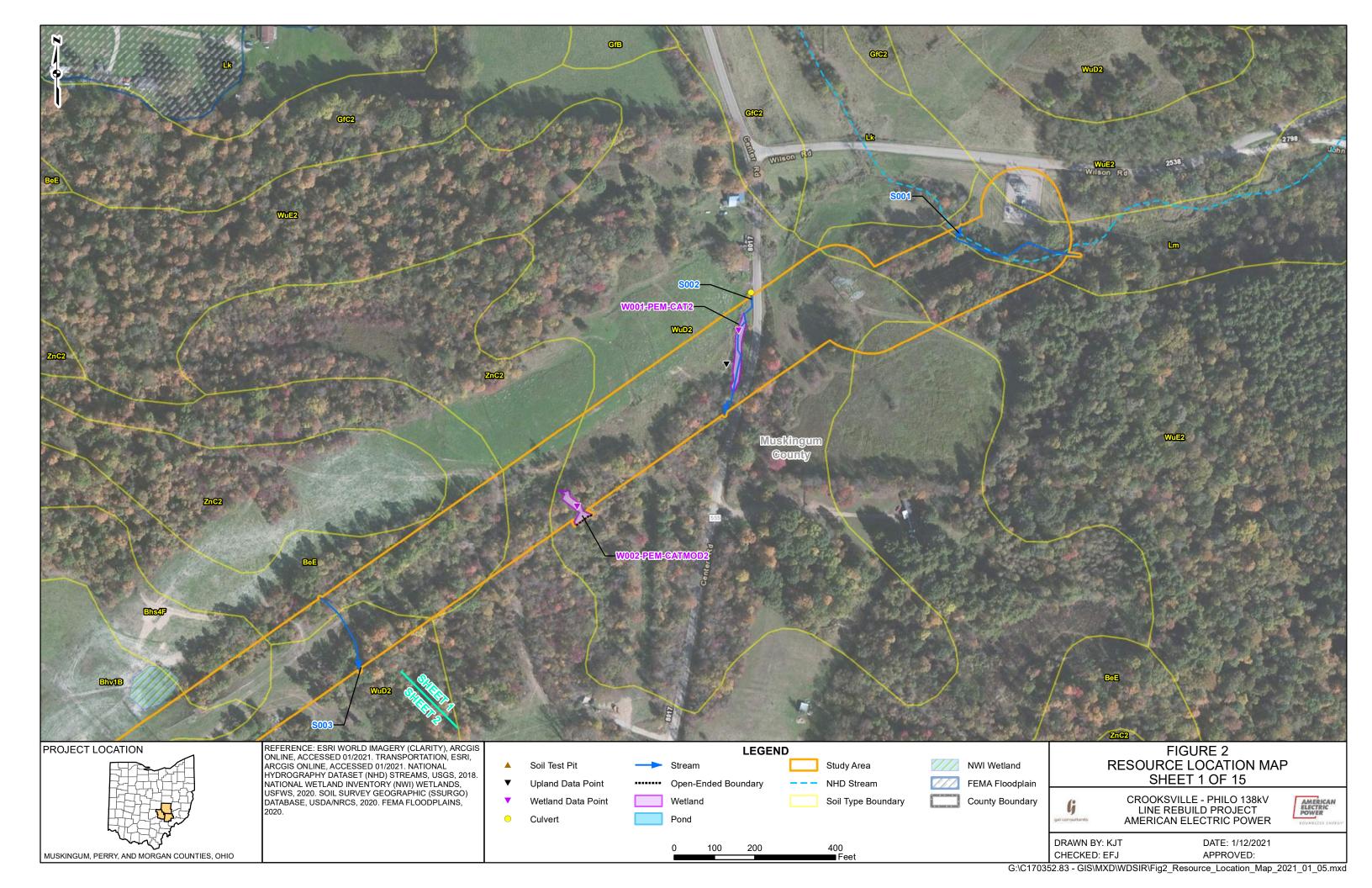


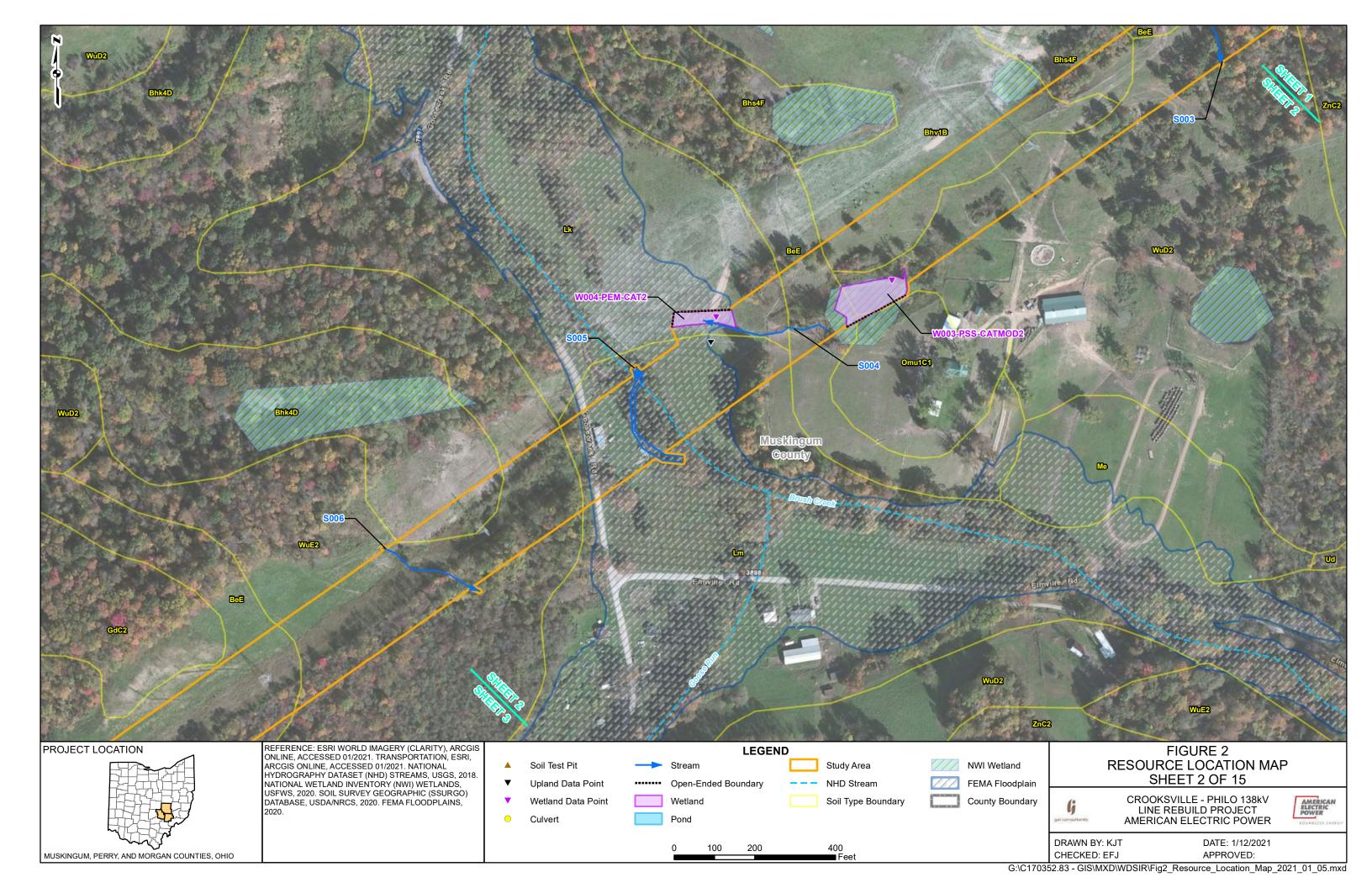


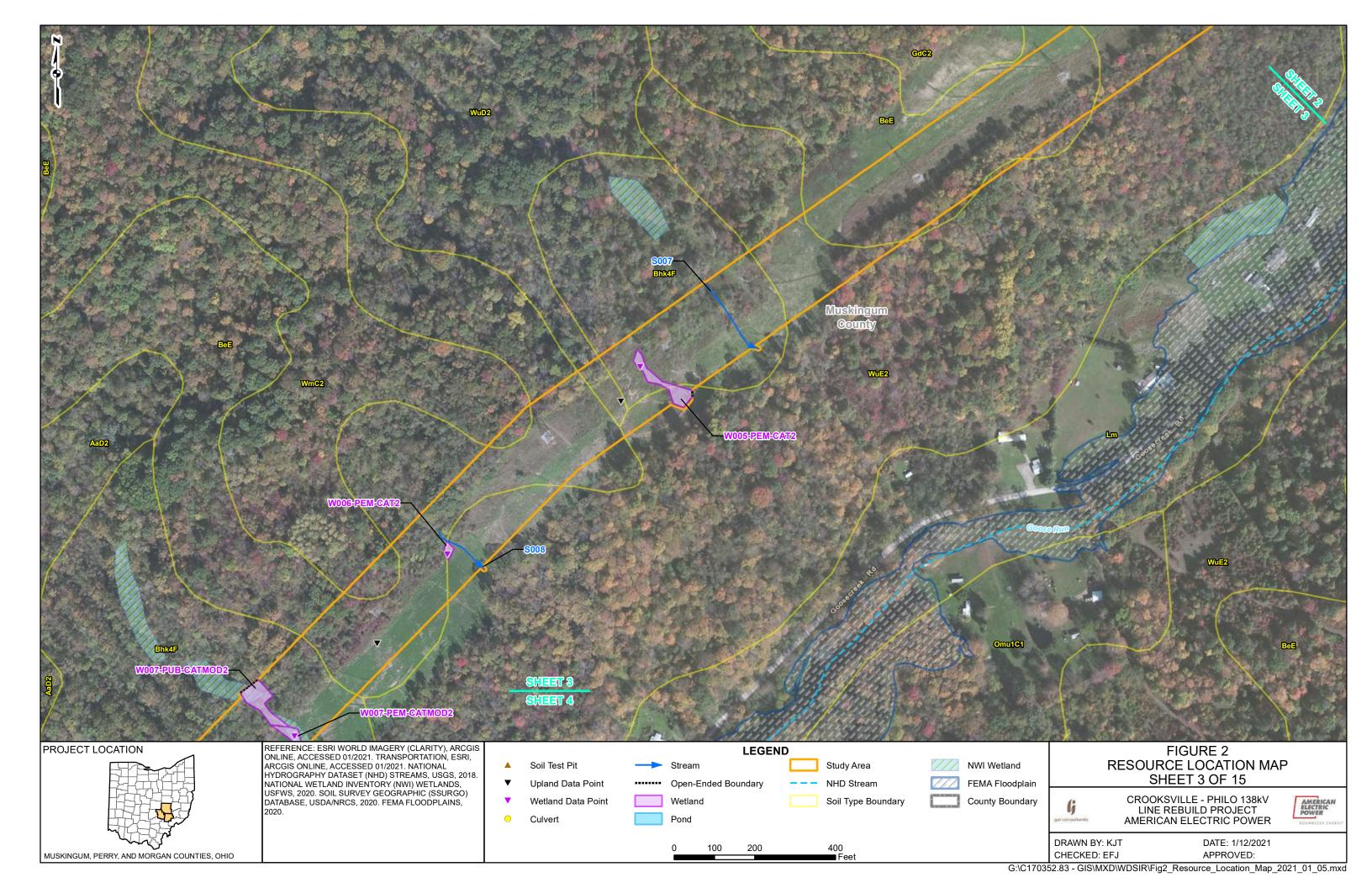


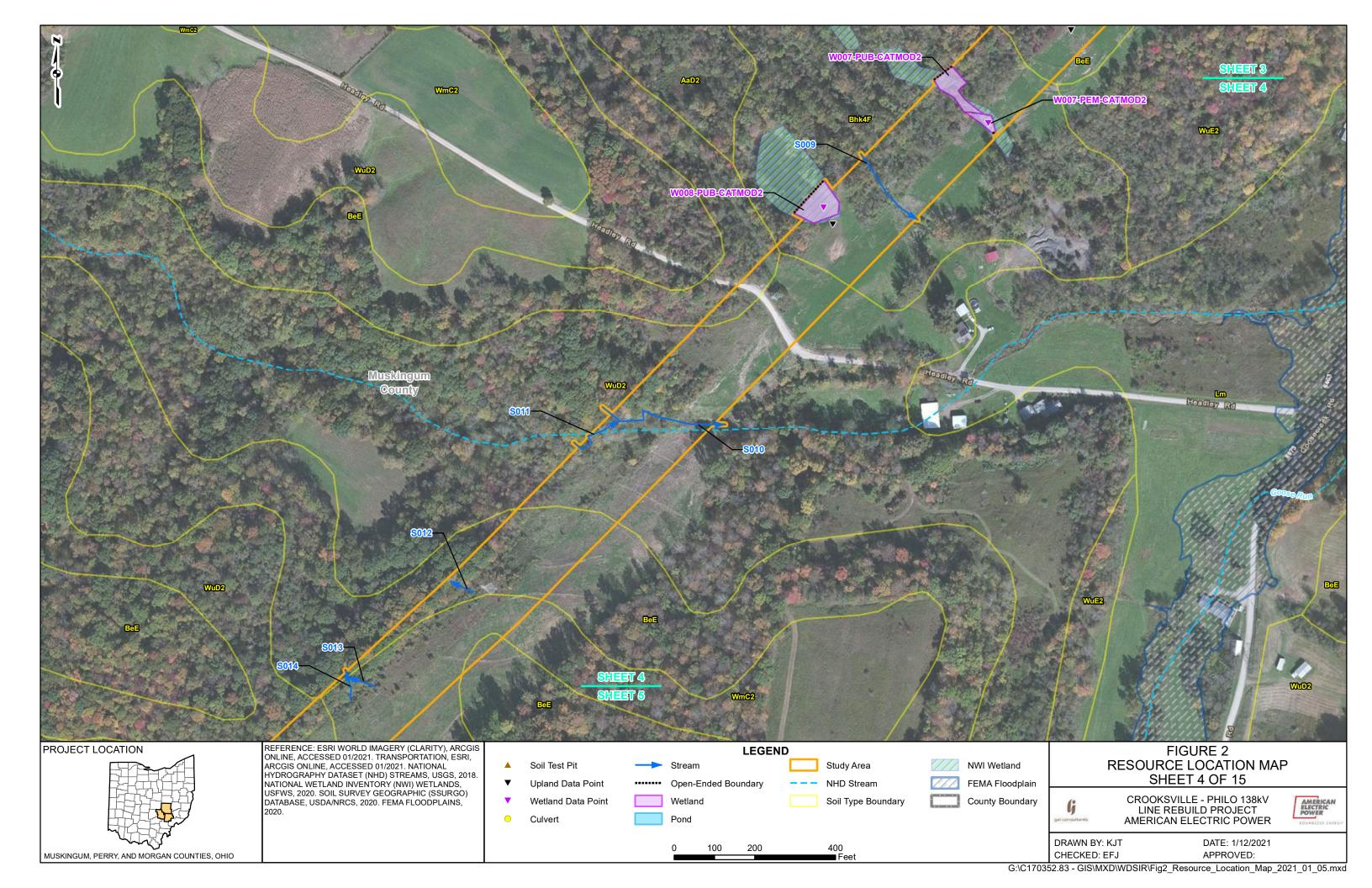


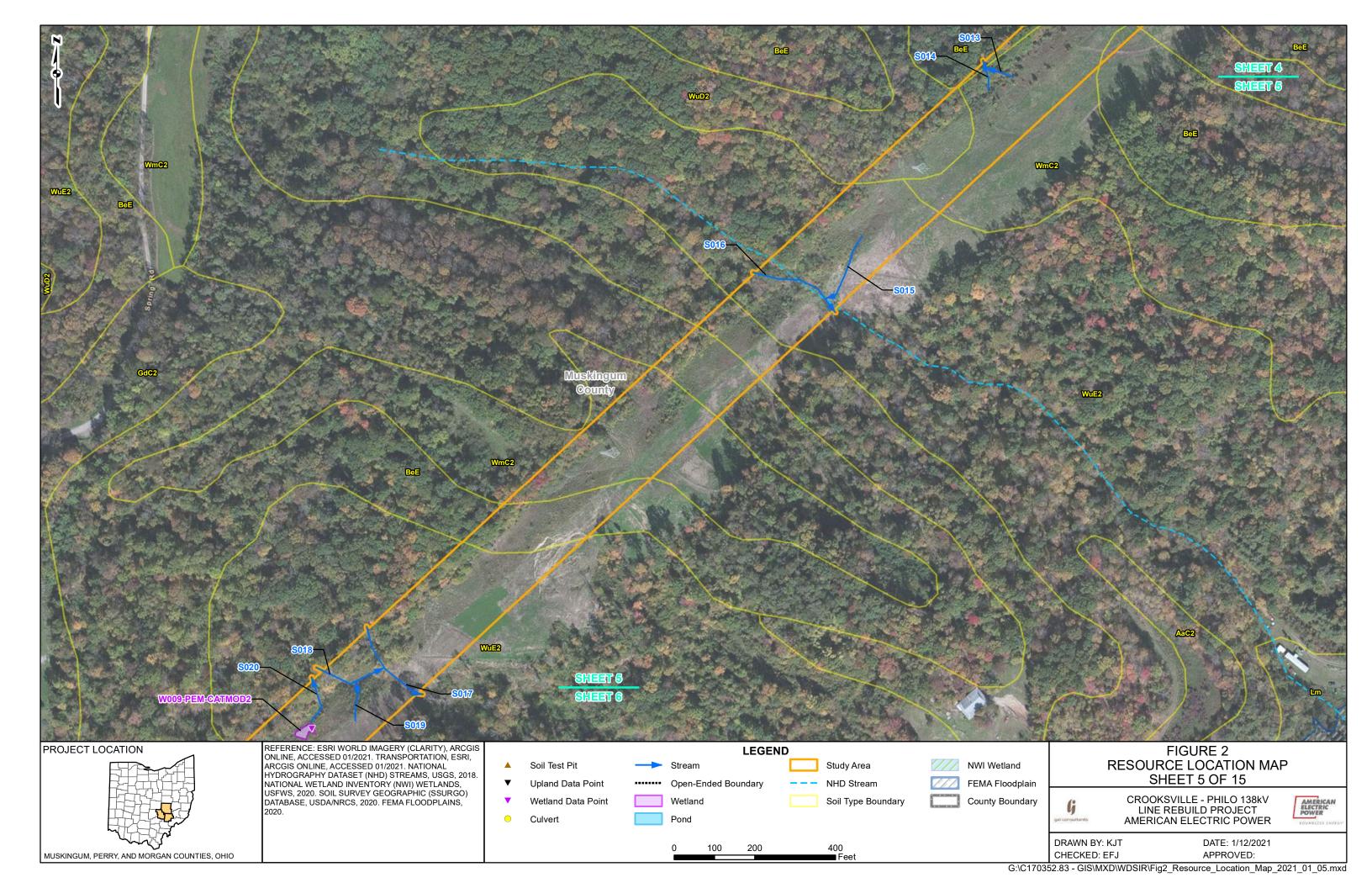


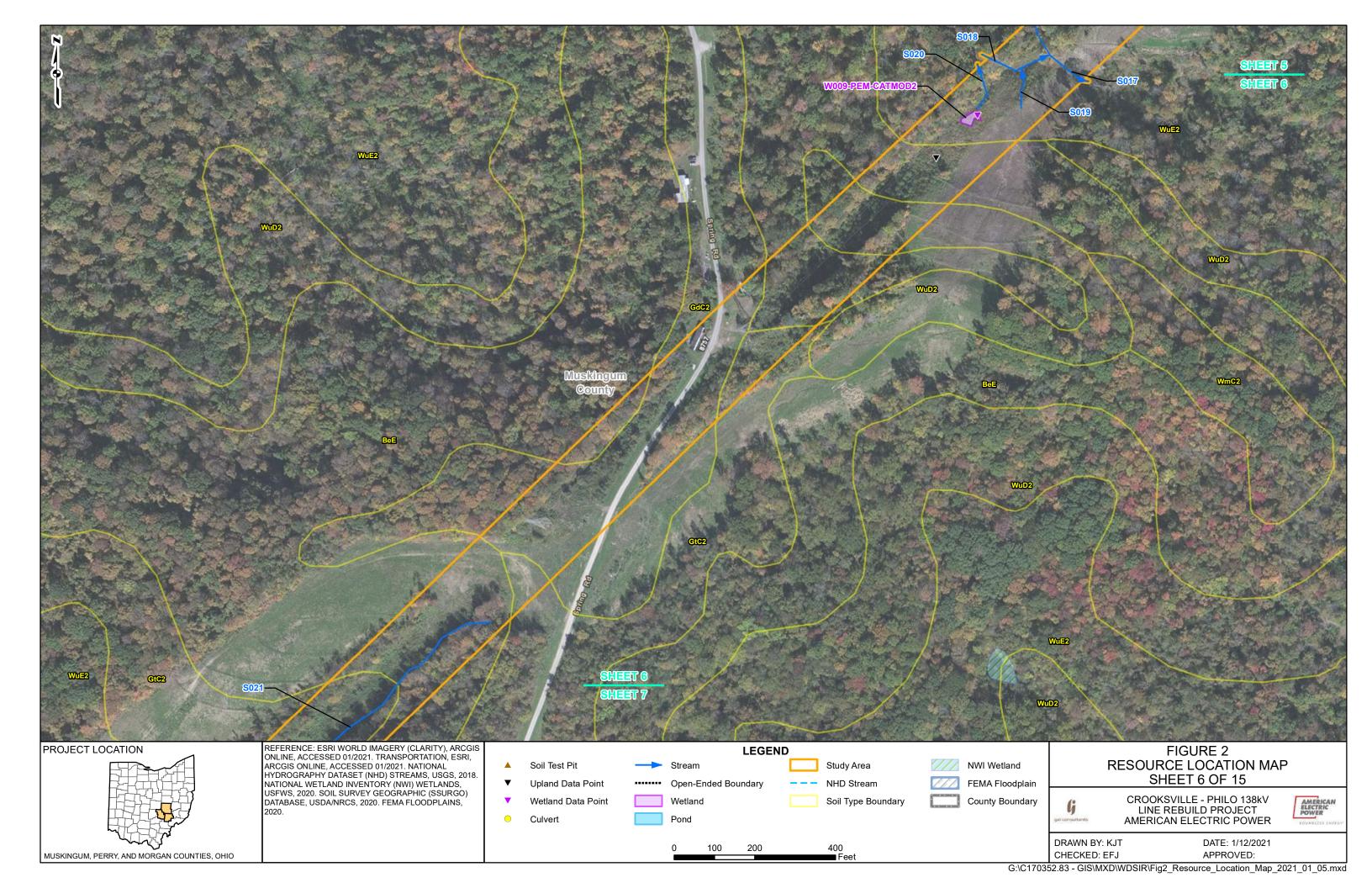


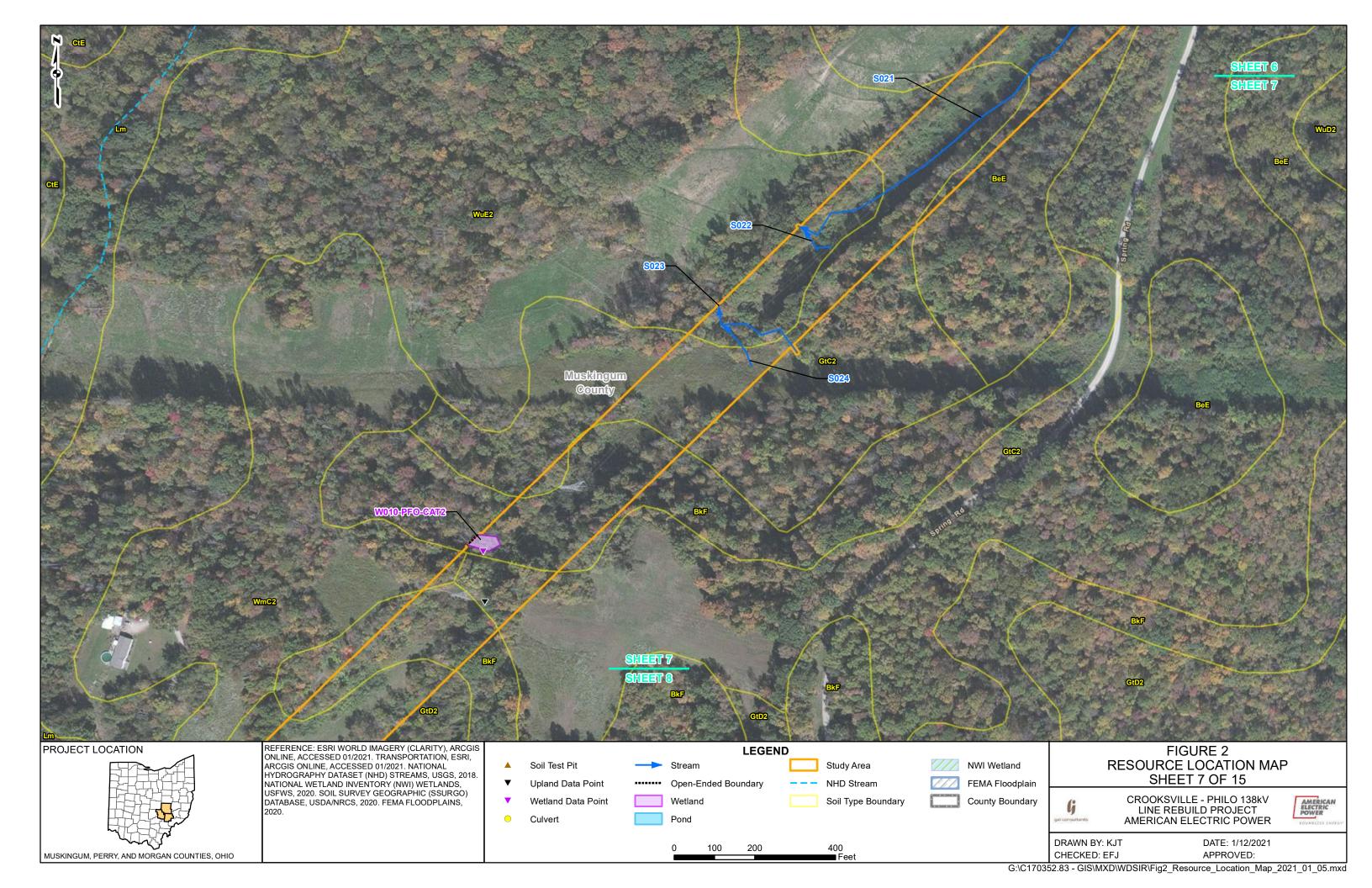


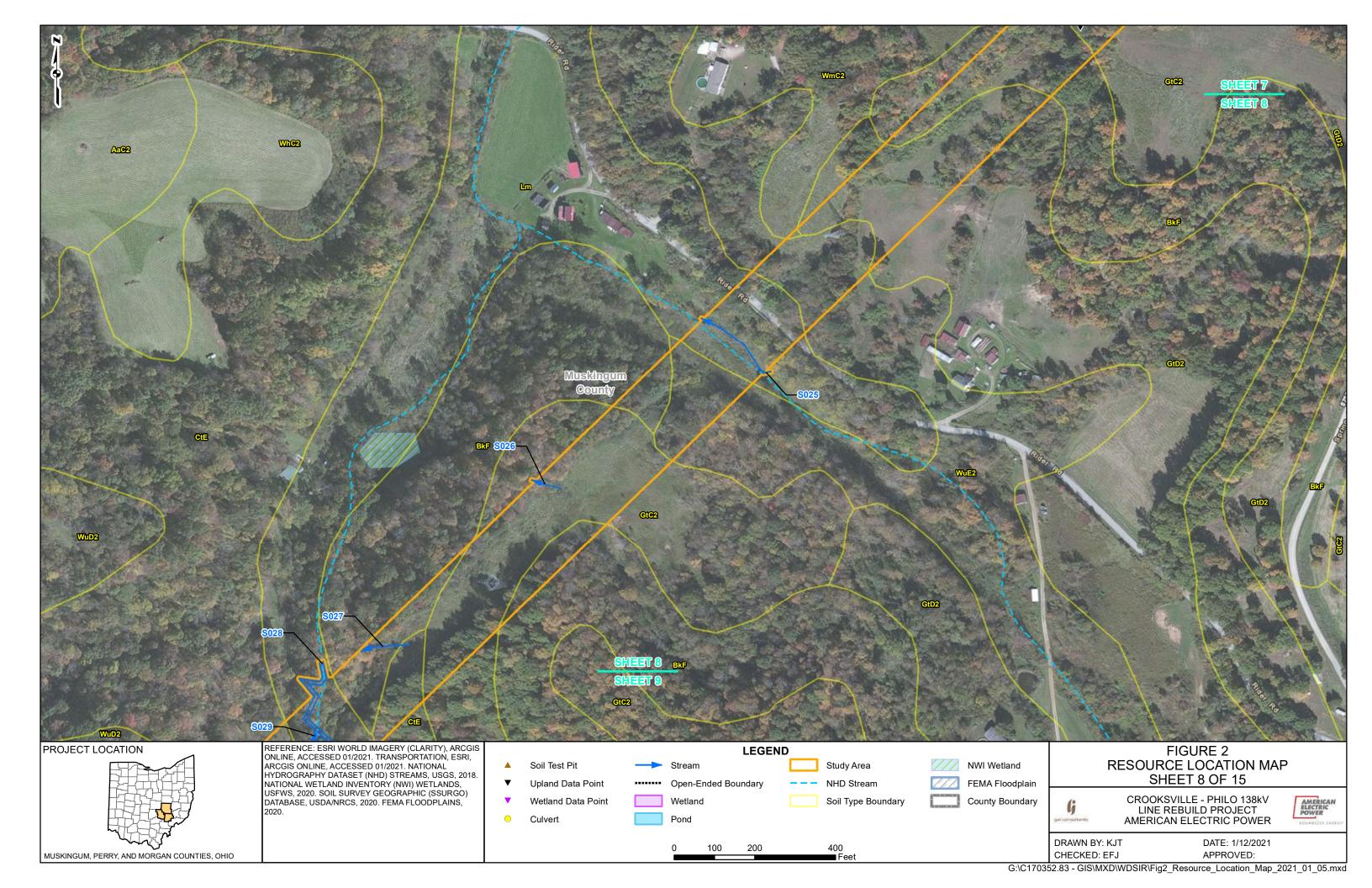


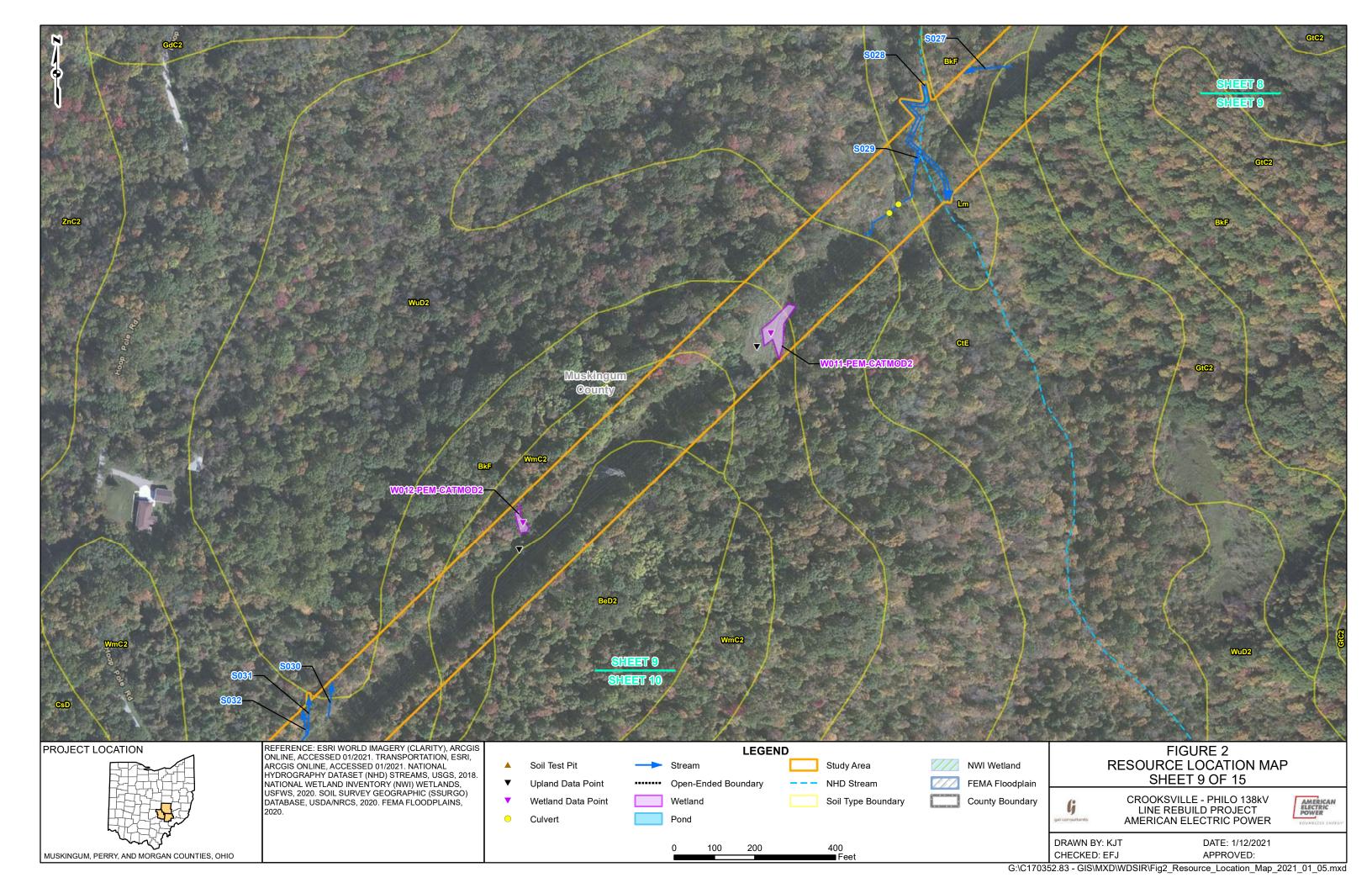


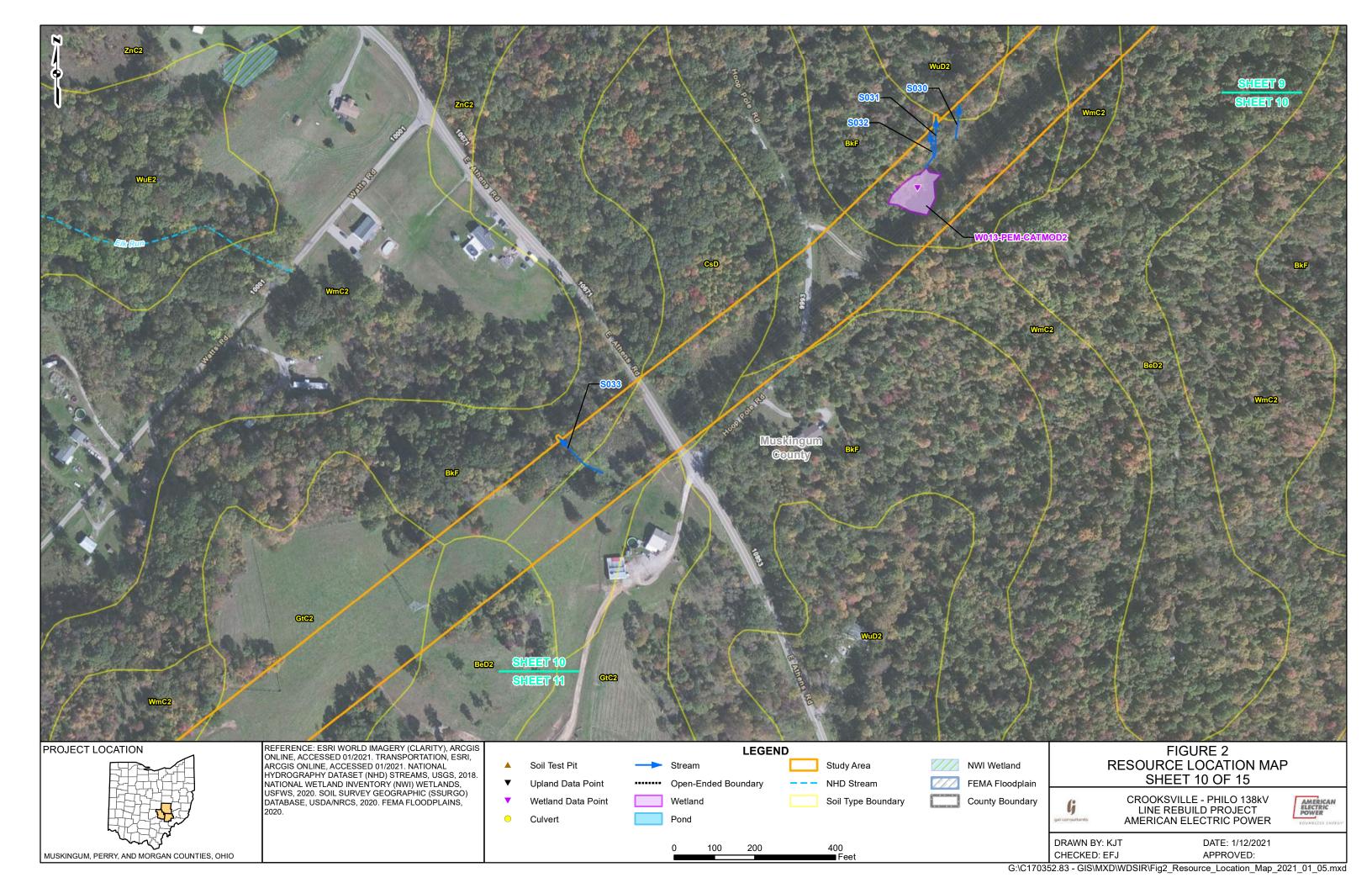


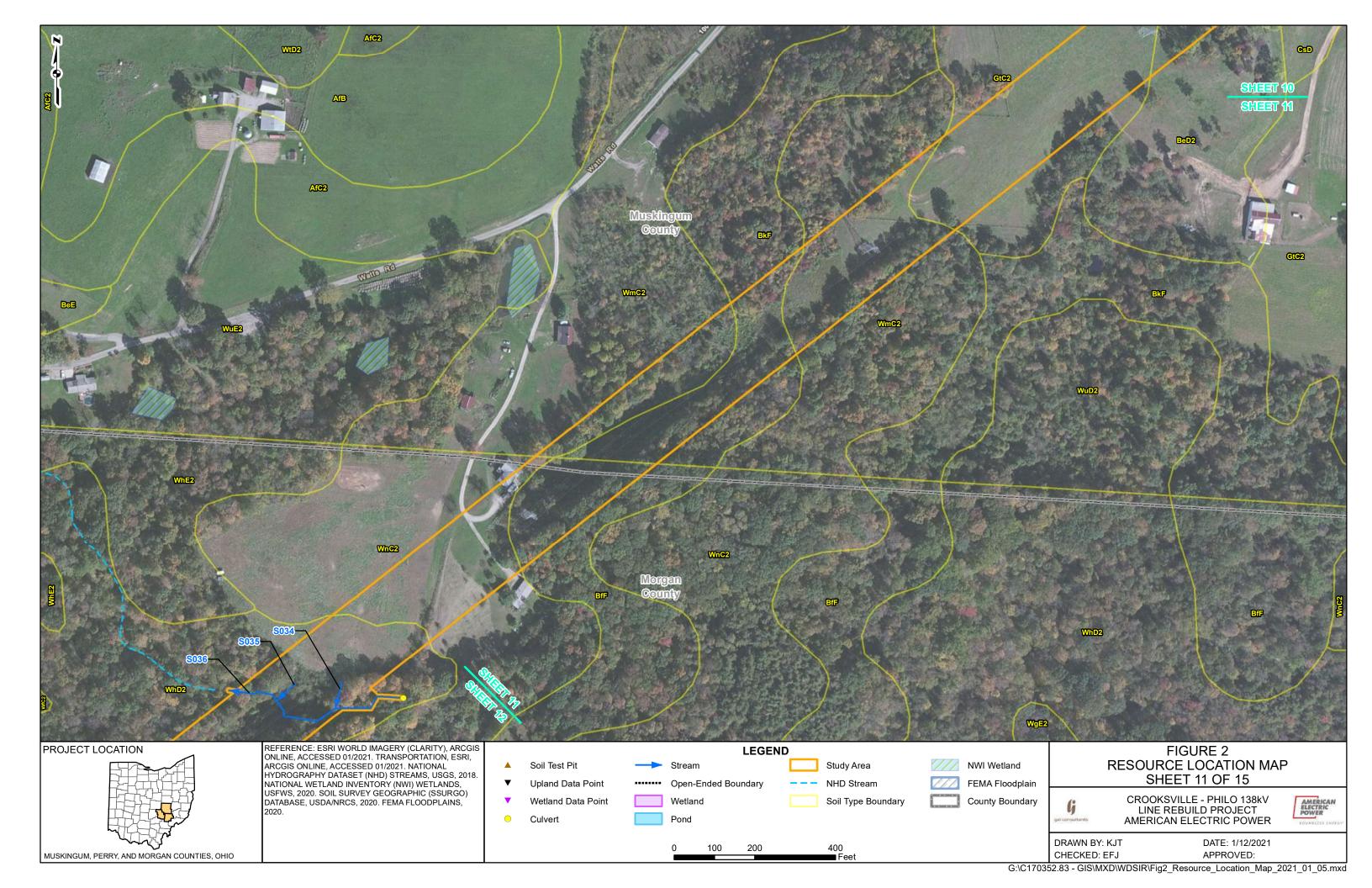


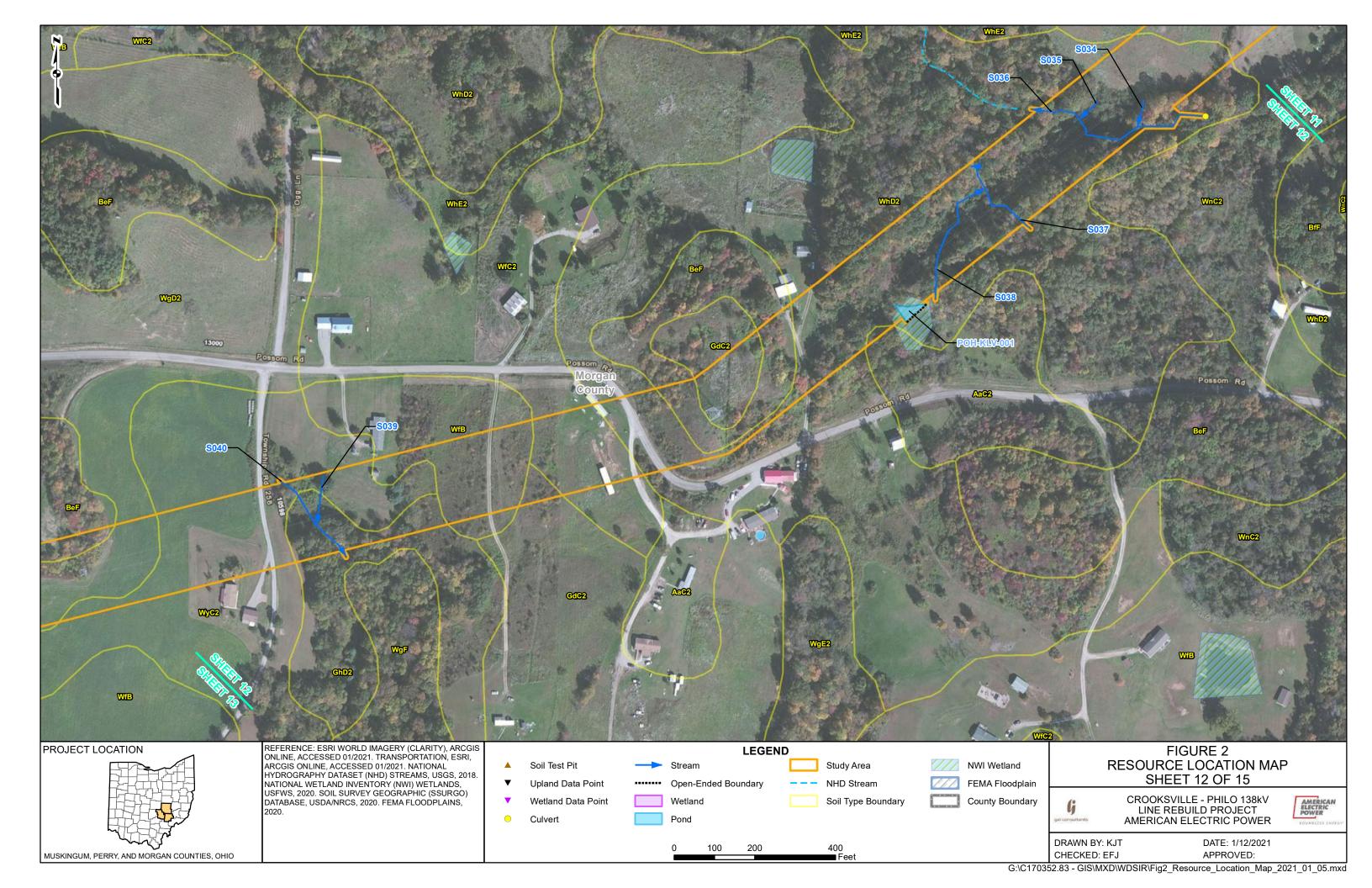


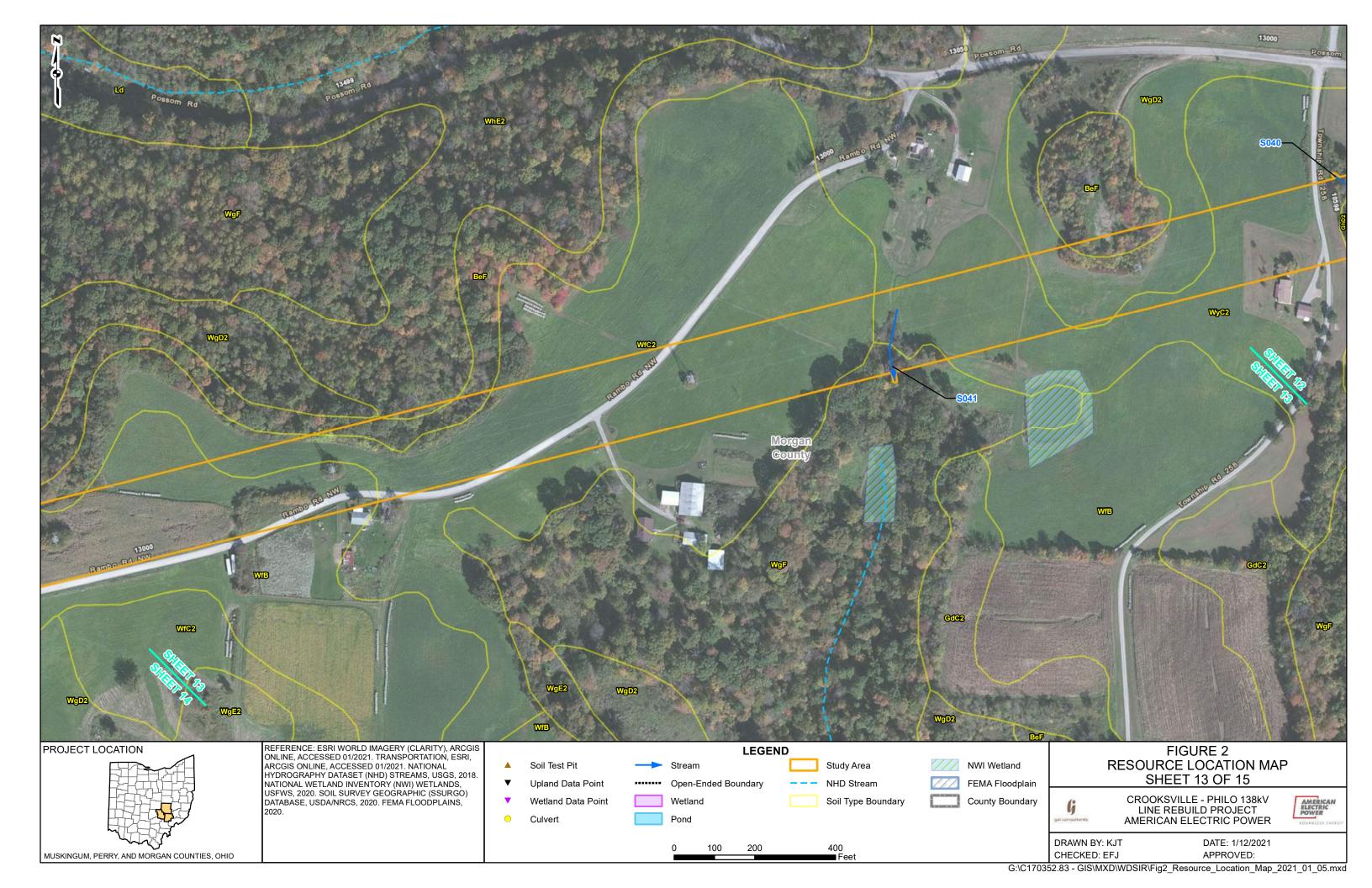


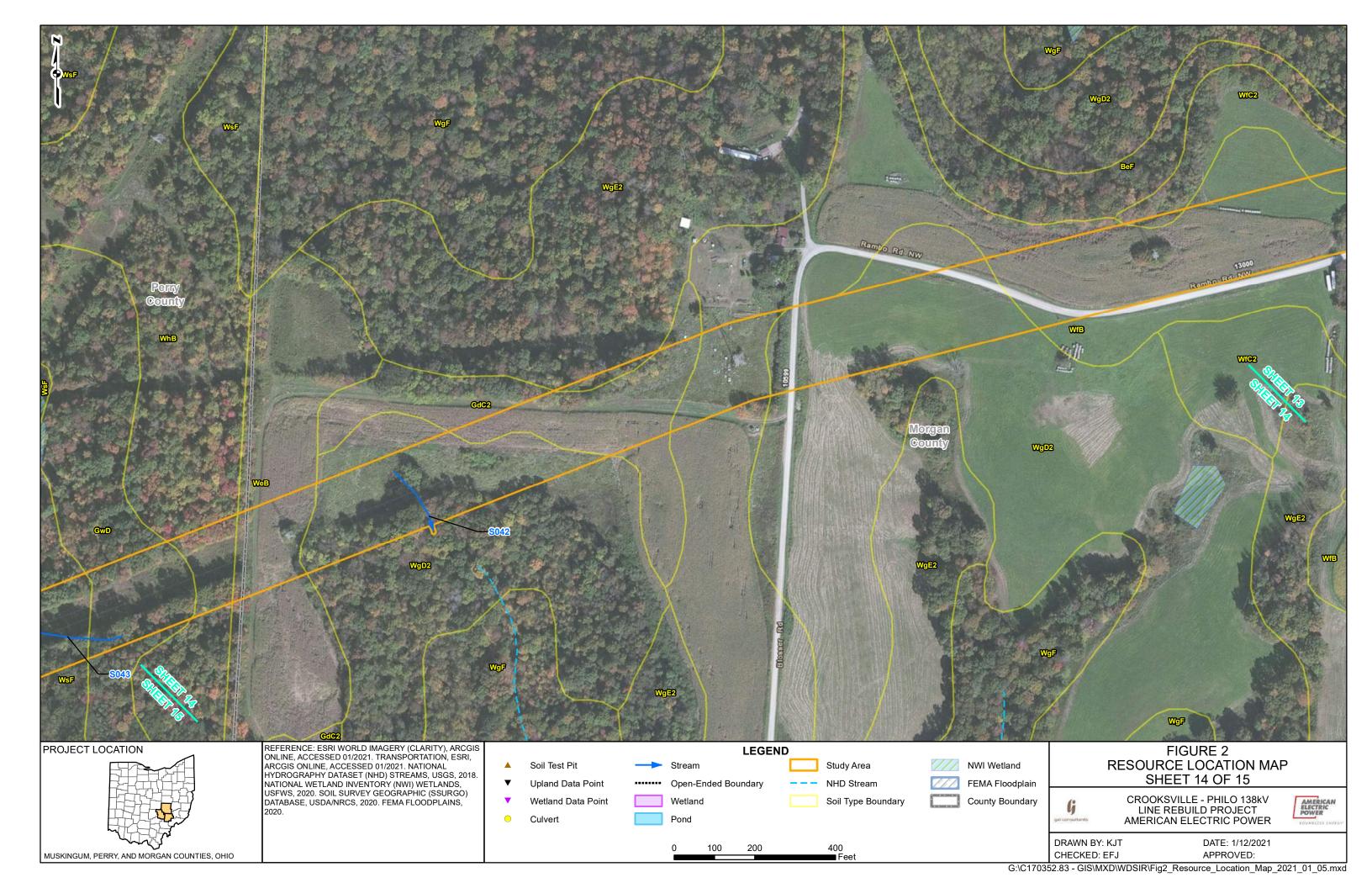


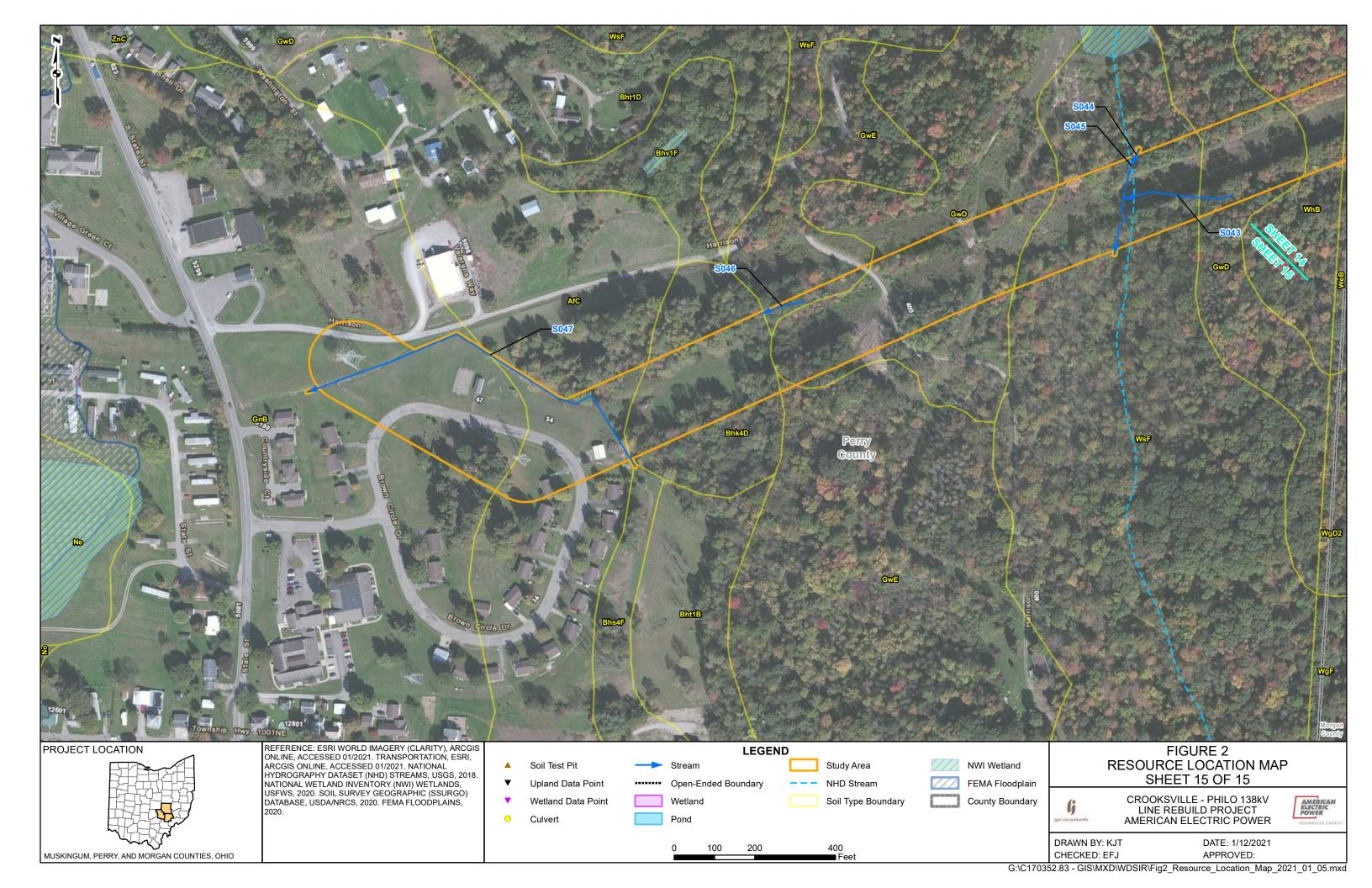


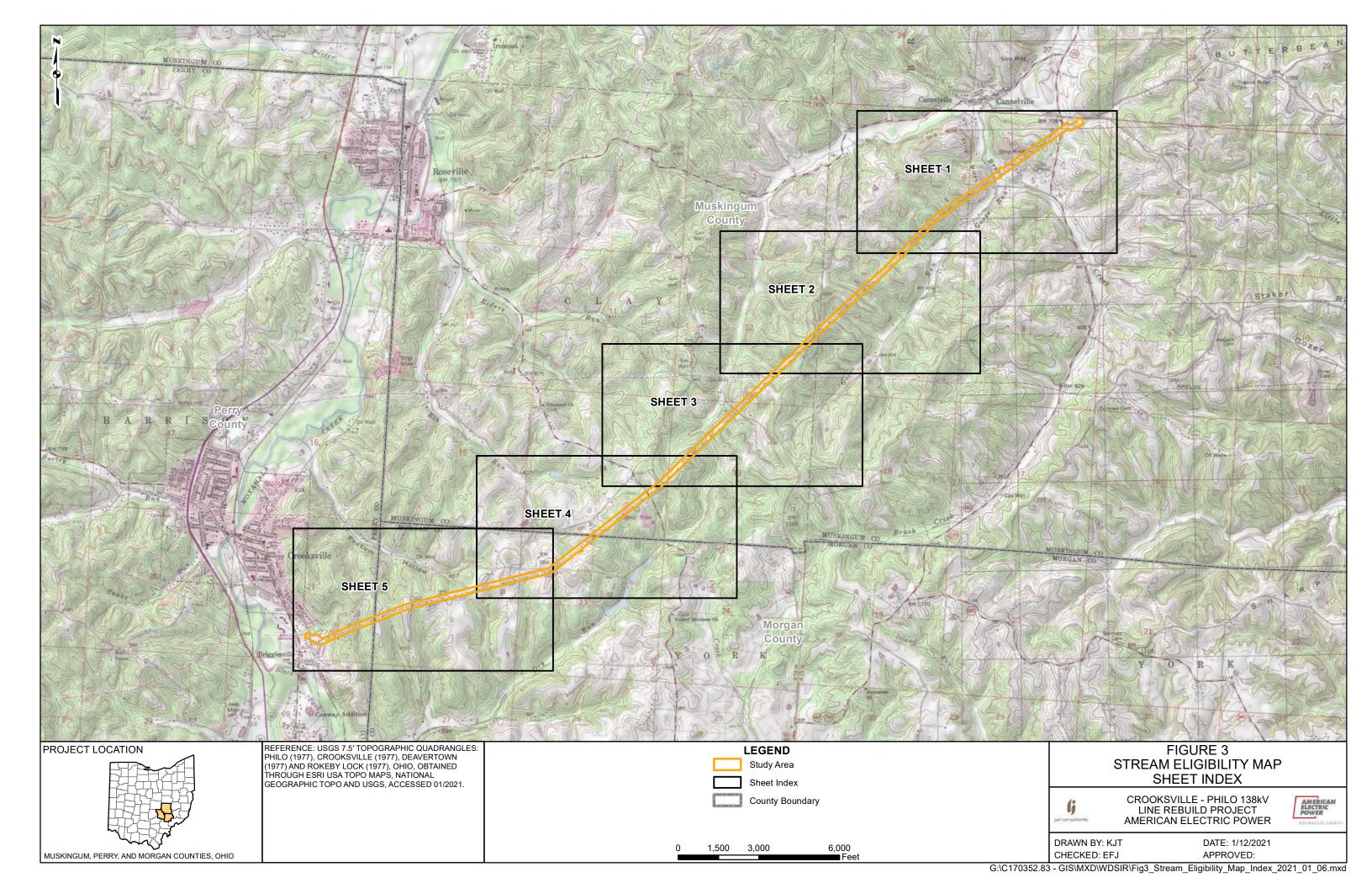


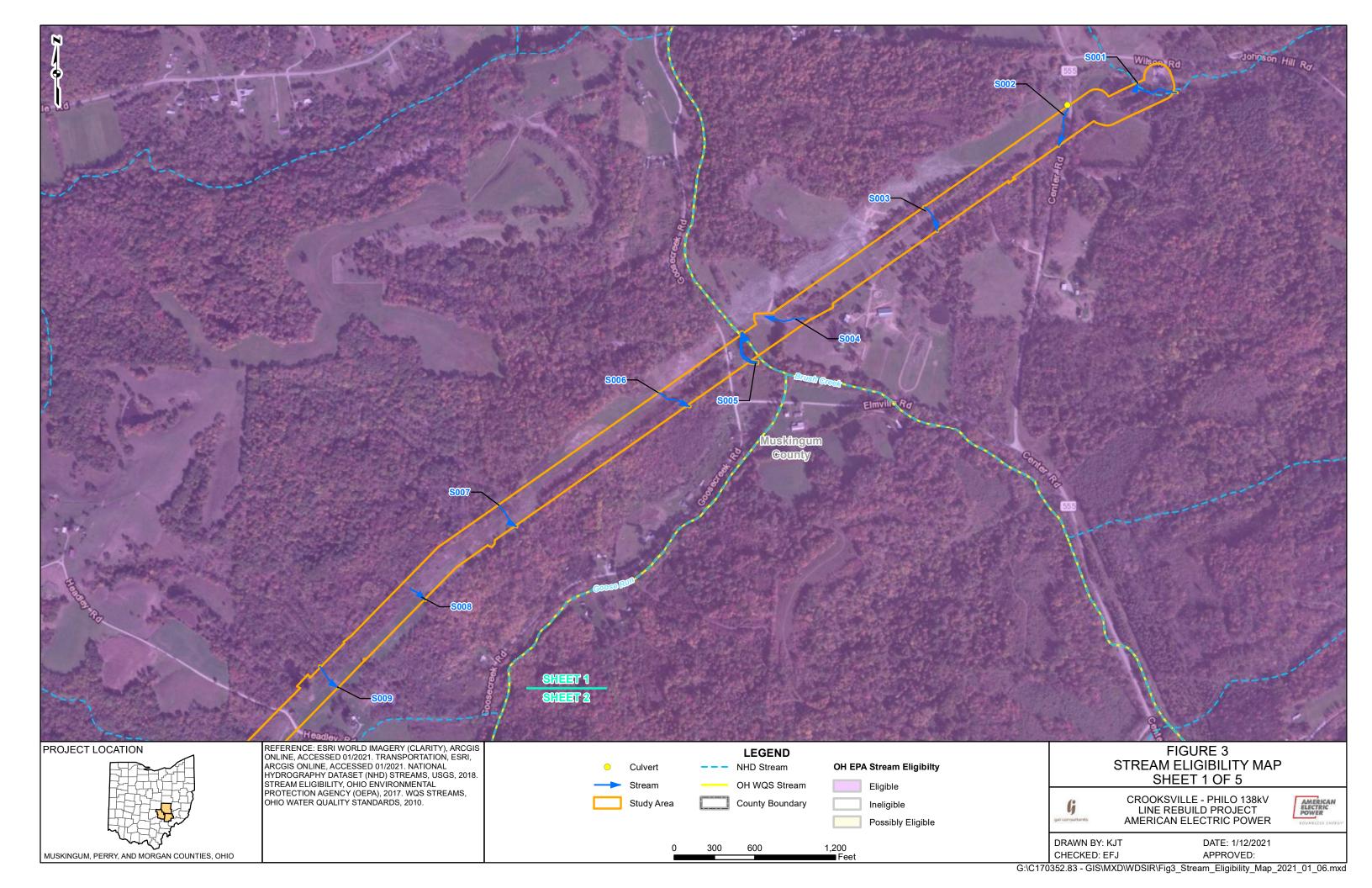


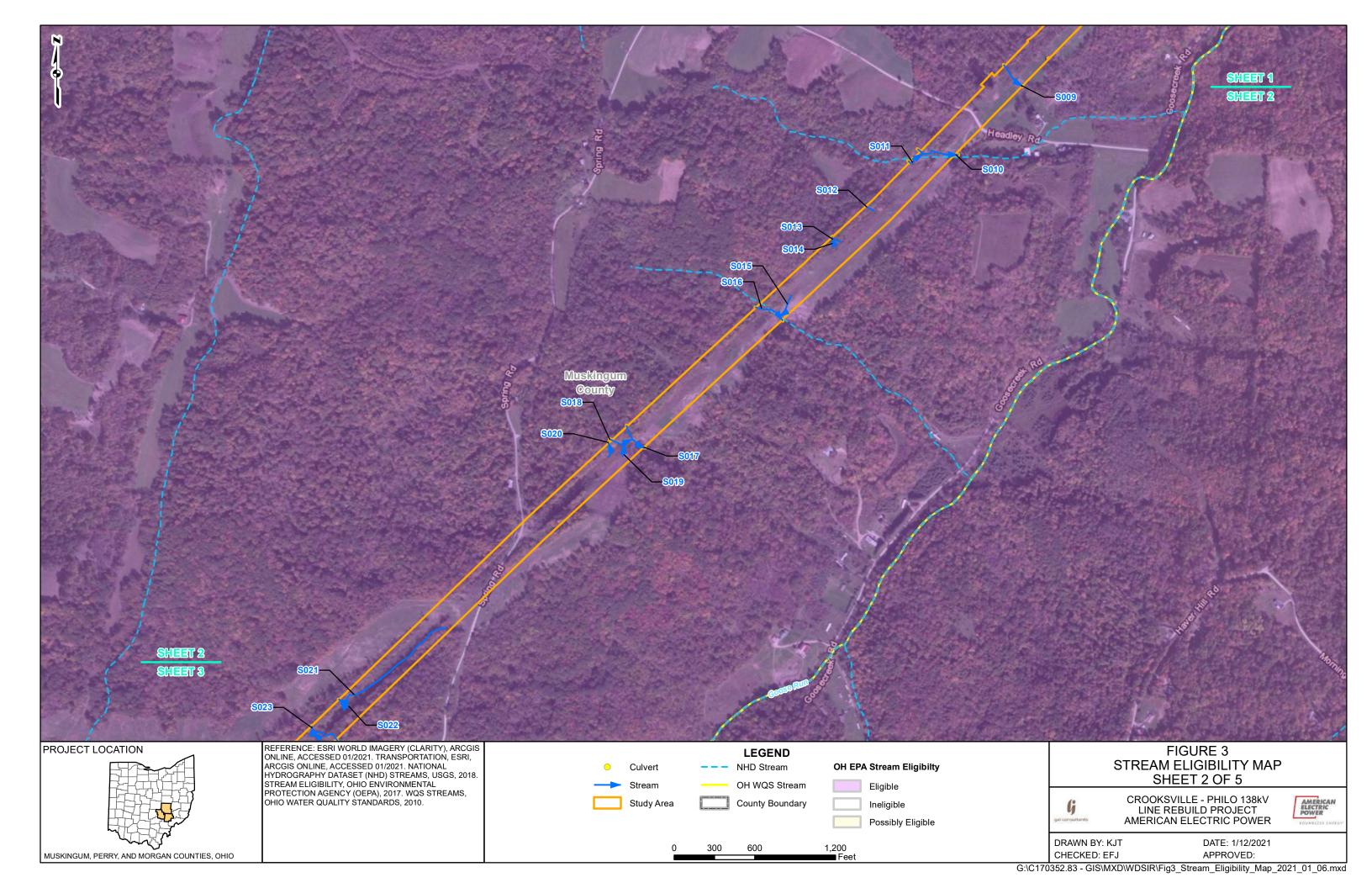


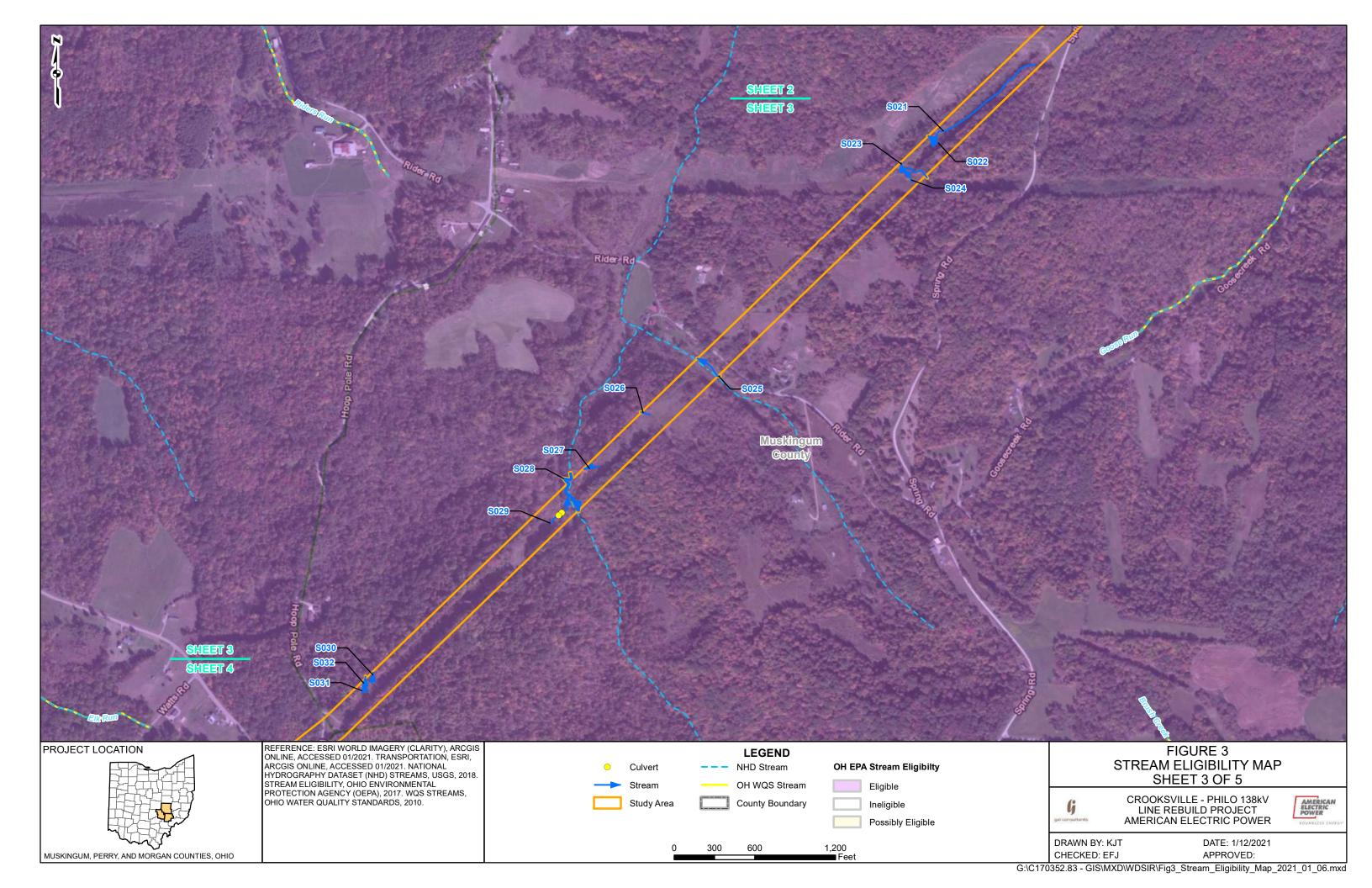


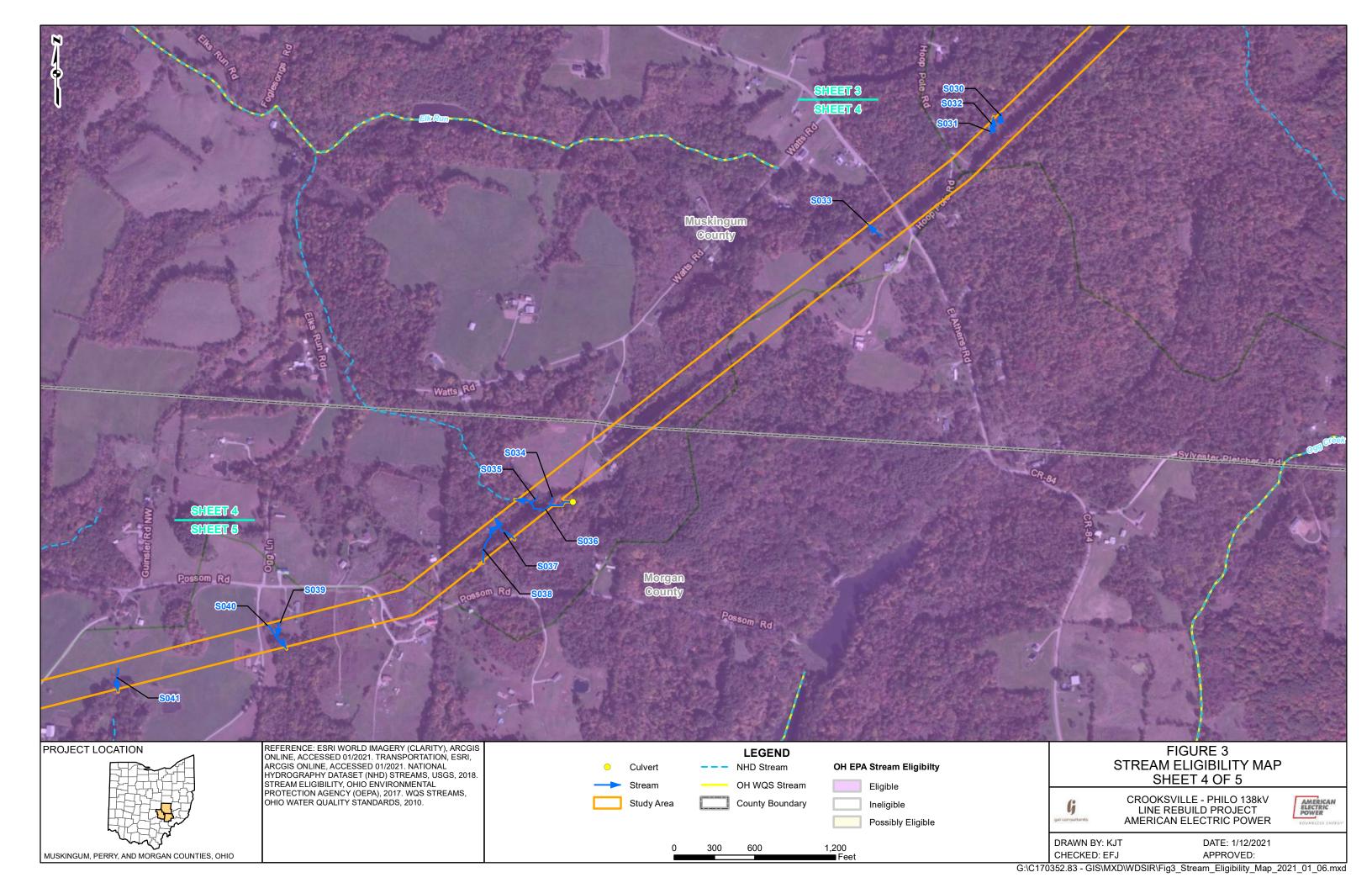


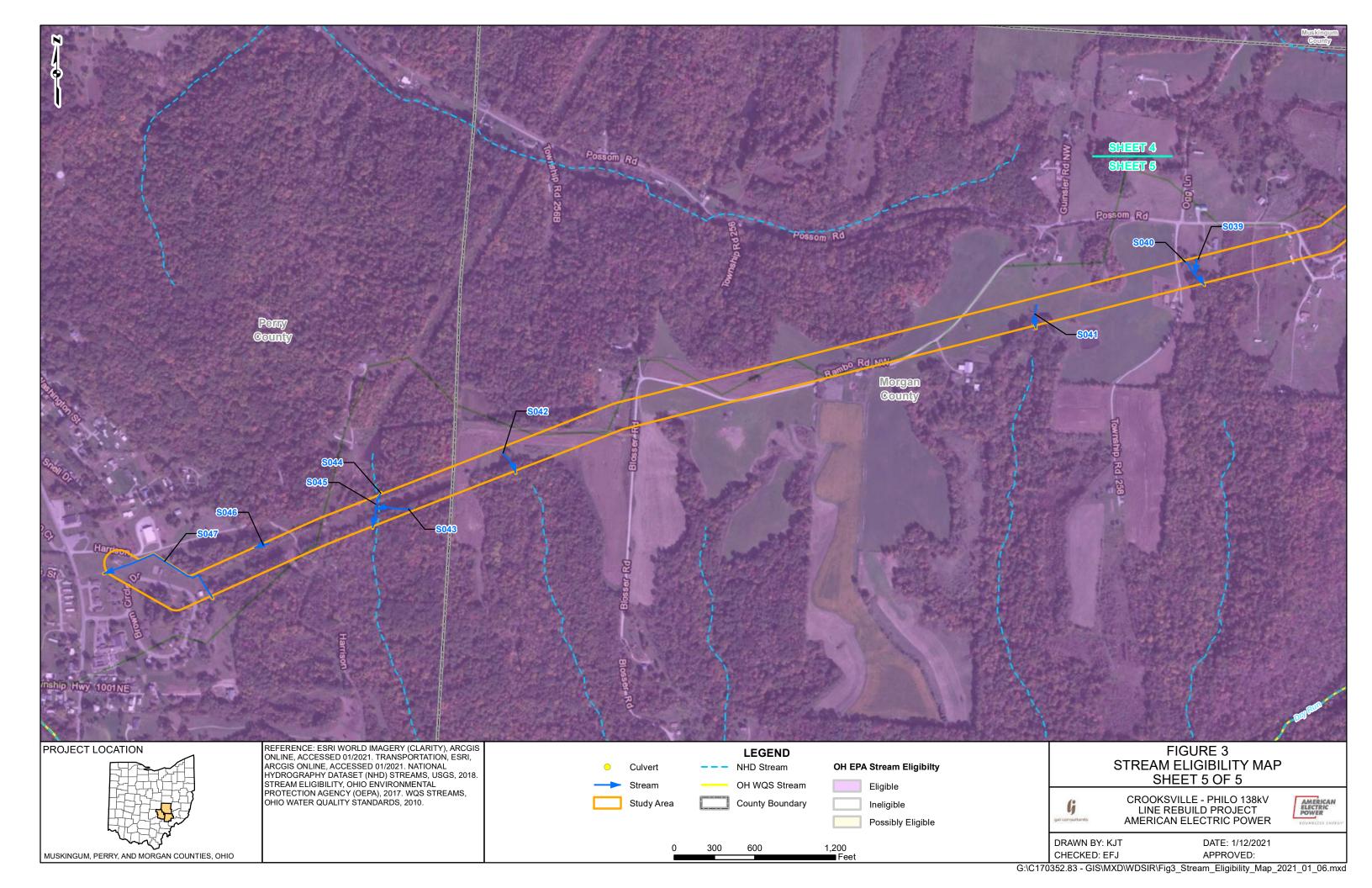












## This foregoing document was electronically filed with the Public Utilities Commission of Ohio Docketing Information System on

7/26/2024 3:19:26 PM

in

Case No(s). 24-0688-EL-BNR

Summary: Application Construction Notice Philo-Crooksville and Philo-Rutland, Part 1 of 2 electronically filed by Hector Garcia-Santana on behalf of Ohio Power Company.

## 24-0688-EL-BNR Part 2 of 2

## **APPENDIX A**Photographs





Photograph 1. Wetland W001-PEM-CAT2, Facing North



Photograph 2. Wetland W001-PEM-CAT2, Facing South





Photograph 3. Wetland W001-PEM-CAT2, Facing West



Photograph 4. Wetland W001-PEM-CAT2, Facing East





Photograph 5. Wetland W002-PEM-CATMOD2, Facing South



Photograph 6. Wetland W002-PEM-CATMOD2, Facing North





Photograph 7. Wetland W002-PEM-CATMOD2, Facing West



Photograph 8. Wetland W002-PEM-CATMOD2, Facing East





Photograph 9. Wetland W003-PSS-CATMOD2, Facing South



Photograph 10. Wetland W003-PSS-CATMOD2, Facing East





Photograph 11. Wetland W003-PSS-CATMOD2, Facing West



Photograph 12. Wetland W003-PSS-CATMOD2, Facing North





Photograph 13. Wetland W004-PEM-CAT2, Facing North



Photograph 14. Wetland W004-PEM-CAT2, Facing South





Photograph 15. Wetland W004-PEM-CAT2, Facing West



Photograph 16. Wetland W004-PEM-CAT2, Facing East





Photograph 17. Wetland W005-PEM-CAT2, Facing South



Photograph 18. Wetland W005-PEM-CAT2, Facing West





Photograph 19. Wetland W005-PEM-CAT2, Facing East



Photograph 20. Wetland W005-PEM-CAT2, Facing North





Photograph 21. Wetland W006-PEM-CAT2, Facing South



Photograph 22. Wetland W006-PEM-CAT2, Facing North





Photograph 23. Wetland W006-PEM-CAT2, Facing East



Photograph 24. Wetland W006-PEM-CAT2, Facing West





Photograph 25. Wetland W007-PUB-CATMOD2, Facing East



Photograph 26. Wetland W007-PUB-CATMOD2, Facing West





Photograph 27. Wetland W007-PUB-CATMOD2, Facing South



Photograph 28. Wetland W007-PUB-CATMOD2, Facing North





Photograph 29. Wetland W007-PEM-CATMOD2, Facing East



Photograph 30. Wetland W007-PEM-CATMOD2, Facing West





Photograph 31. Wetland W007-PEM-CATMOD2, Facing South



Photograph 32. Wetland W007-PEM-CATMOD2, Facing North





Photograph 33. Wetland W008-PUB-CATMOD2, Facing East



Photograph 34. Wetland W008-PUB-CATMOD2, Facing West





Photograph 35. Wetland W008-PUB-CATMOD2, Facing South



Photograph 36. Wetland W008-PUB-CATMOD2, Facing North





Photograph 37. Wetland W009-PEM-CATMOD2, Facing East



Photograph 38. Wetland W009-PEM-CATMOD2, Facing West





Photograph 39. Wetland W009-PEM-CATMOD2, Facing North



Photograph 40. Wetland W009-PEM-CATMOD2, Facing South





Photograph 41. Wetland W010-PFO-CAT2, Facing East



Photograph 42. Wetland W010-PFO-CAT2, Facing West





Photograph 43. Wetland W010-PFO-CAT2, Facing South



Photograph 44. Wetland W010-PFO-CAT2, Facing North





Photograph 45. Wetland W011-PEM-CATMOD2, Facing East



Photograph 46. Wetland W011-PEM-CATMOD2, Facing West





Photograph 47. Wetland W011-PEM-CATMOD2, Facing South



Photograph 48. Wetland W011-PEM-CATMOD2, Facing North





Photograph 49. Wetland W012-PEM-CATMOD2, Facing East



Photograph 50. Wetland W012-PEM-CATMOD2, Facing West





Photograph 51. Wetland W012-PEM-CATMOD2, Facing South



Photograph 52. Wetland W012-PEM-CATMOD2, Facing North





Photograph 53. Wetland W013-PEM-CATMOD2, Facing East



Photograph 54. Wetland W013-PEM-CATMOD2, Facing West





Photograph 55. Wetland W013-PEM-CATMOD2, Facing South



Photograph 56. Wetland W013-PEM-CATMOD2, Facing North





Photograph 57. Stream S001 Upstream, Facing East



Photograph 58. Stream S001 Downstream, Facing West





Photograph 59. Stream S002 Upstream, Facing South



Photograph 60. Stream S002 Downstream, Facing North





Photograph 61. Stream S003 Upstream, Facing Northwest



**Photograph 62. Stream S003 Downstream, Facing Southeast** 





Photograph 63. Stream S004 Upstream, Facing East



Photograph 64. Stream S004 Downstream, Facing West





Photograph 65. Stream S005 (Brush Creek) Upstream, Facing Southeast



Photograph 66. Stream S005 (Brush Creek) Downstream, Facing Northwest





**Photograph 67. Stream S006 Upstream, Facing Northwest** 



Photograph 68. Stream S006 Downstream, Facing Southeast





Photograph 69. Stream S007 Upstream, Facing Northwest



**Photograph 70. Stream S007 Downstream, Facing Southeast** 





Photograph 71. Stream S008 Upstream, Facing Northwest



**Photograph 72. Stream S008 Downstream, Facing Southeast** 





Photograph 73. Stream S009 Upstream, Facing Northwest



**Photograph 74. Stream S009 Downstream, Facing Southeast** 





Photograph 75. Stream S010 Upstream, Facing West



**Photograph 76. Stream S010 Downstream, Facing East** 





Photograph 77. Stream S011 Upstream, Facing West



**Photograph 78. Stream S011 Downstream, Facing East** 





Photograph 79. Stream S012 Upstream, Facing East



Photograph 80. Stream S012 Downstream, Facing West





Photograph 81. Stream S013 Upstream, Facing East



Photograph 82. Stream S013 Downstream, Facing West





**Photograph 83. Stream S014 Upstream, Facing South** 



Photograph 84. Stream S014 Downstream, Facing North





Photograph 85. Stream S015 Upstream, Facing Northeast



Photograph 86. Stream S015 Downstream, Facing Southwest





Photograph 87. Stream S016 Upstream, Facing Northwest



**Photograph 88. Stream S016 Downstream, Facing Southeast** 





Photograph 89. Stream S017 Upstream, Facing Northwest



**Photograph 90. Stream S017 Downstream, Facing Southeast** 





Photograph 91. Stream S018 Upstream, Facing Northwest



Photograph 92. Stream S018 Downstream, Facing East





Photograph 93. Stream S019 Upstream, Facing South



Photograph 94. Stream S019 Downstream, Facing North





Photograph 95. Stream S020 Upstream, Facing Southwest



Photograph 96. Stream S020 Downstream, Facing North





Photograph 97. Stream S021 Upstream, Facing Northeast



**Photograph 98. Stream S021 Downstream, Facing Southwest** 





Photograph 99. Stream S022 Upstream, Facing East



**Photograph 100. Stream S022 Downstream, Facing Northwest** 





Photograph 101. Stream S023 Upstream, Facing East



Photograph 102. Stream S023 Downstream, Facing West





**Photograph 103. Stream S024 Upstream, Facing Southeast** 



Photograph 104. Stream S024 Downstream, Facing Northwest





Photograph 105. Stream S025 Upstream, Facing West



**Photograph 106. Stream S025 Downstream, Facing East** 





Photograph 107. Stream S026 Upstream, Facing East



Photograph 108. Stream S026 Downstream, Facing West





Photograph 109. Stream S027 Upstream, Facing West



Photograph 110. Stream S027 Downstream, Facing East





Photograph 111. Stream S028 Upstream, Facing South



Photograph 112. Stream S028 Downstream, Facing North





Photograph 113. Stream S029 Upstream, Facing West



**Photograph 114. Stream S029 Downstream, Facing East** 





Photograph 115. Stream S030 Upstream, Facing South



Photograph 116. Stream S030 Downstream, Facing North





Photograph 117. Stream S031 Upstream, Facing South



Photograph 118. Stream S031 Downstream, Facing North





Photograph 119. Stream S032 Upstream, Facing South



Photograph 120. Stream S032 Downstream, Facing North





Photograph 121. Stream S033 Upstream, Facing Southeast



Photograph 122. Stream S033 Downstream, Facing Northwest





Photograph 123. Stream S034 Upstream, Facing North



Photograph 124. Stream S034 Downstream, Facing South





**Photograph 125. Stream S035 Upstream, Facing Northeast** 



Photograph 126. Stream S035 Downstream, Facing Southwest





Photograph 127. Stream S036 Upstream, Facing East



Photograph 128. Stream S036 Downstream, Facing West





Photograph 129. Stream S037 Upstream, Facing Southeast



Photograph 130. Stream S037 Downstream, Facing Northwest





Photograph 131. Stream S038 Upstream, Facing Southwest



**Photograph 132. Stream S038 Downstream, Facing East** 





**Photograph 133. Stream S039 Upstream, Facing Northeast** 



Photograph 134. Stream S039 Downstream, Facing Southwest





Photograph 135. Stream S040 Upstream, Facing Northwest



Photograph 136. Stream S040 Downstream, Facing Southeast





Photograph 137. Stream S041 Upstream, Facing North



Photograph 138. Stream S041 Downstream, Facing South





Photograph 139. Stream S042 Upstream, Facing Northwest



Photograph 140. Stream S042 Downstream, Facing Southeast





Photograph 141. Stream S043 Upstream, Facing East



Photograph 142. Stream S043 Downstream, Facing West





Photograph 143. Stream S044 Upstream, Facing Northeast



Photograph 144. Stream S044 Downstream, Facing Southwest





Photograph 145. Stream S045 Upstream, Facing North



Photograph 146. Stream S045 Downstream, Facing South





**Photograph 147. Stream S046 Upstream, Facing Northeast** 



Photograph 148. Stream S046 Downstream, Facing Southwest





Photograph 149. Stream S047 Upstream, Facing Southeast



Photograph 150. Stream S047 Downstream, Facing West





Photograph 119. Representative Upland Habitat, Facing Southwest



Photograph 120. Representative Upland Habitat, Facing Northeast



# **APPENDIX B**Wetland Determination Data Forms



WEILAND DETERMINATION DATA FORM	- Eastern Wountains and Fleumont Region
Project/Site: CYUNSUNIEPhilo City/	County: MUSKINGUM CO Sampling Date: 5/18/20
Applicant/Owner:	State: Sampling Point wetland
No. 1	tion, Township, Range:
Mary Control of the C	elief (concave, convex, none): CMMU Slope (%):
Subregion (LRR or MLRA): LR Lat: 39,810.675	Long: 81.9804 Datum: NAD83
1 1 100 1 100 100 100 100 100 100	1/1 / 1= 2-/51
Soil Map Unit Name: Washington Not Elember 5	OHHOUM IS AS IN A CHARGO IN THE CONTROL OF THE CONT
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation $\underbrace{0}_{0}$ , Soil $\underbrace{0}_{0}$ , or Hydrology $\underbrace{0}_{0}$ significantly distu	
Are Vegetation (1), Soil (1), or Hydrology (1) naturally problem	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sal	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  No	Is the Sampled Area within a Wetland? Yes No
Remarks: Wetland data for W001-PEM-CAT	
Data taken within transmission line	Row lope in field.
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 Oc	
	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (	
Algal Mat or Crust (B4) Other (Explain in Re	emarks)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):	←   ./
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pro	evious inspections), if available:
Remarks: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2 72 55
Hydrology Indicators are AZ, AZ, C	3,02,05.
	3
	*,

201	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 1. NOVL	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/B)
6		
7,		Prevalence Index worksheet:
**	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 )		FACW species x 2 =
1. Nove		FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0¹
	= Total Cover	4 - Morphological Adaptations (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: )	20 V Edyl	Problematic Hydrophytic Vegetation¹ (Explain)
1. Modaris anundinacea	ZO Y FORM	
2. Impatums alpensis	20 y fach	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Carex vulpinoided	70 A OPT	be present, unless disturbed or problematic.
4. Juneus ettusus	20 Y tach	Definitions of Four Vegetation Strata:
5. Cyperus esculentes	15 N Fach	
6. Mimulus alatus	5 N Obl	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7.4		height.
8		a li tal la Wandanina and dinamina lan
9		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
112		Herb – All herbaceous (non-woody) plants, regardless
1	Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size: 301)		Woody vine – All woody vines greater than 3.28 ft in height.
1. NOVE		neight.
2.		
3.	V	
1001	- D	
4		Hydrophytic
5	T-t-l 0	Vegetation Present? Yes \ No
50% of total cover:	= Total Cover 20% of total cover:	
Remarks: (Include photo numbers here or on a separate		, , , , , , , , , , , , , , , , , , , ,
Wetland veg is dominant.		

Fype: C=Concentry  ydric Soil Indicate  Histosol (A1)  Histic Epipedor  Black Histic (A3  Hydrogen Sulfic  Stratified Layer  2 cm Muck (A1  Depleted Below  Thick Dark Surf  Sandy Mucky N  MLRA 147, 4	ation, D=Deplet ors:  (A2) b) de (A4) s (A5) 0) (LRR N) c Dark Surface (Aace (A12)	30 2:	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) (MLRA 147)
Type: C=Concentrydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Suri Sandy Mucky N MLRA 147,	ation, D=Deplet ors:  (A2) b) de (A4) s (A5) 0) (LRR N) c Dark Surface (Aace (A12)	ion, RM=Rec	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer Com Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
rdric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
rdric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
rdric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
rdric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
/dric Soil Indicat  Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer Com Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer Com Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat  Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat  Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
ydric Soil Indicat Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer Com Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) (A2) (A2) (A3) (A4) (A4) (A5) (A5) (A7) (A7) (A7) (A7) (A7) (A7) (A7) (A7	-	Dark Surface Polyvalue Be Thin Dark Su Leamy Gleye Depleted Ma	e (S7) elow Surfac urface (S9) ed Matrix (F	ce (S8) (N (MLRA 1	ILRA 147,	Indic 2	cators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) <b>(MLRA 147)</b>
Histosol (A1) Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	(A2) de (A4) s (A5) D) <b>(LRR N)</b> Dark Surface (ace (A12)	_	Polyvalue Be Thin Dark Su Loamy Gleye Depleted Ma	elow Surfac urface (S9) ed Matrix (F	(MLRA 1		:	2 cm Muck (A10) (MLRA 147)
Histic Epipedor Black Histic (A3 Hydrogen Sulfic Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	t) de (A4) s (A5) d) <b>(LRR N)</b> v Dark Surface ( ace (A12)	_	Polyvalue Be Thin Dark Su Loamy Gleye Depleted Ma	elow Surfac urface (S9) ed Matrix (F	(MLRA 1			
Black Histic (A3 Hydrogen Sulfid Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	t) de (A4) s (A5) d) <b>(LRR N)</b> v Dark Surface ( ace (A12)	_	Thin Dark Su Loamy Gleye Depleted Ma	urface (S9) ed Matrix (F	(MLRA 1		1401 1	
Hydrogen Sulfice Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N MLRA 147, 2	de (A4) s (A5) D) <b>(LRR N)</b> Dark Surface ( ace (A12)	_	Loamy Gleye Depleted Ma	ed Matrix (F		A7 1A21		Coast Prairie Redox (A16) (MLRA 147, 148)
Stratified Layer 2 cm Muck (A1 Depleted Below Thick Dark Sur Sandy Mucky N	s (A5) D) <b>(LRR N)</b> Dark Surface ( ace (A12)	_	Depleted Ma		-,	77, 140)		Piedmont Floodplain Soils (F19)
2 cm Muck (A1 Depleted Below Thick Dark Suri Sandy Mucky N	D) <b>(LRR N)</b> Dark Surface (a ace (A12)	_	The state of the s		•			(MLRA 136, 147)
Depleted Below Thick Dark Sur Sandy Mucky N MLRA 147,	Dark Surface ( ace (A12)	A11) _	Redox Dark	Surface (F	6)		,	Very Shallow Dark Surface (TF12)
_ Thick Dark Sur _ Sandy Mucky N MLRA 147,	ace (A12)	, –	Depleted Da					Other (Explain in Remarks)
MLRA 147,	lineral (S1) <b>(LR</b> I	_	Redox Depre				_	
		RN,	Iron-Mangan			LRR N,		
	48)		MLRA 13	6)				
_ Sandy Gleyed I	//atrix (S4)	_	Umbric Surfa	ace (F13) <b>(I</b>	MLRA 13	6, 122)	³Ind	dicators of hydrophytic vegetation and
_ Sandy Redox (		_	_ Piedmont Flo	oodplain So	oils (F19)	(MLRA 14	<b>8)</b> w	etland hydrology must be present,
Stripped Matrix		_	_ Red Parent N	Material (F2	21) <b>(MLR</b>	A 127, 147	7) ur	nless disturbed or problematic.
estrictive Layer (	f observed):							
Туре:								
Depth (inches):							Hydric Soi	il Present? Yes No
emarks:							1	
	Meets	F3						
	1 lect	) 1 2 %						

WETLAND DETERMINATION DATA FORM -	- Eastern Mountains and Piedmont Region					
Project/Site: Crooksville Philo City/Co	ounty: MUSKINGUMCO Sampling Date: 5/18/20					
Applicant/Owner:	State: OH Sampling Point wetland					
Investigator(s): Sectio	n, Township, Range:					
Landform (hillslope, terrace, etc.): Deptiles Local relief (concave, convex, none): COMOUL Slope (%): 0/.						
Subregion (LRR or MLRA): <u>URRN</u> Lat: <u>39,899,482</u> Long: <u>81,987845</u> Datum: <u>NAD83</u>						
Soil Map Unit Name: NUDZ-Westmoreland Guernsuy SIH	cam 15-25 / Slope NWI classification: NA					
Are climatic / hydrologic conditions on the site typical for this time of year? Ye						
Are Vegetation 10, Soil 10, or Hydrology 10 significantly disturb						
Are Vegetation 10, Soil 10, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing same	pling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area					
Hydric Soil Present? Yes No	within a Wetland? Yes No					
Wetland Hydrology Present? Yes No						
Remarks: Wetland duta For W002-PEM-CAT	MOD2					
Datataken along transmission line f	50W edge HIVEST.					
J						
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 (B	314) Sparsely Vegetated Concave Surface (B8)					
High Water Table (A2) Hydrogen Sulfide Odo						
Saturation (A3)	s on Living Roots (C3) Moss Trim Lines (B16)					
Water Marks (B1) Presence of Reduced						
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)						
<u> </u>	FAC-Neutral Test (D5)					
Aquatic Fauna (B13)	PAC-Neutral Test (D5)					
Field Observations:   Surface Water Present?   Yes No Depth (inches):	_					
Water Table Present? Yes Vo Depth (inches):	5"					
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No					
(includes capillary fringe)	days inconstions) if available:					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	ious inspections), il available.					
Remarks:						
Hydrology Indicatus are AZ, AZ, CZ, I	LDS.					
	**** • 5.35					

2N/C	Absolute Dominant Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: 20 )	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6	- 10 <del> </del>	Prevalence Index worksheet:
7		
	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 51)		FACW species x 2 =
		FAC species x 3 =
1. 116W.L		FACU species x 4 =
2	****	
3	;;	UPL species x 5 =
4		Column Totals: (A) (B)
5	-0	Prevalence Index = B/A =
6	·	Hydrophytic Vegetation Indicators:
7		
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 <sup>1</sup>
	(_) = Total Cover	4 - Morphological Adaptations¹ (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	20 11 51	Problematic Hydrophytic Vegetation¹ (Explain)
1. Impatiens, capensis	30 Y Fady	
2. Carex lucida,	ZO V Obl	1
3. Carex Valpincidea	20 V 00L	¹Indicators of hydric soil and wetland hydrology must
4. Juncus ettusus	ZO Y FULL	be present, unless disturbed or problematic.
7/7		Definitions of Four Vegetation Strata:
5. Kumex Crispus	10 N Fac	
6.		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of height.
8		
		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		
11.	= Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size:)	20 % of total cover	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)		height.
1. Nove		
2		
3		
4		Hydrophytic
5		Vegetation
	= Total Cover	Present? Yes No
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	Y
Wettand veg is domina	. 1	
I seemed as a countling	N 4 .	
		P.I

5000 80	20.0 500	to the de	oth needed to docum			or confirm	n the absence of	of indicate	ors.)	
Depth (inches)	Color (moist)	%	Color (moist)	x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-16	104R5/2	85	254R3/4	15	C	PL	Jam			N .
	0 <del></del>		-	/						
,=	·	-	===		_					
-			( <del>)                                   </del>	:=						
	\\.		( <del></del>							
-	V2	-;			1					
-					S		-			***
¹Type: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location: PL			
Hydric Soil	Indicators:								roblematic Hy	
Histoso	l (A1) pipedon (A2)		Dark Surface Polyvalue Be	, ,	ce (S8) <b>(N</b>	/II RA 147.			A10) <b>(MLRA 1</b> Redox (A16)	47)
Black H	istic (A3)		Thin Dark Su	rface (S9)	(MLRA			(MLRA 14	7, 148)	(7.10)
	en Sulfide (A4) d Layers (A5)		Loamy Gleye Depleted Mat		F2)			eamont Fid (MLRA 13	oodplain Soils 6, 147)	(F19)
	uck (A10) <b>(LRR N)</b> d Below Dark Surfac	co (Δ11)	Redox Dark S Depleted Dar						/ Dark Surface in in Remarks)	
Thick D	ark Surface (A12)		Redox Depre	ssions (F8	3)		_ 0.	пот (Ехріа	iii iii Kemana,	
	Mucky Mineral (S1) <b>(</b> <b>A 147, 148)</b>	LRR N,	Iron-Mangano		es (F12) <b>(</b>	LRR N,				
	Gleyed Matrix (S4) Redox (S5)		Umbric Surfa Piedmont Flo						ydrophytic v <b>e</b> g logy must be p	
Stripped	d Matrix (S6)		Red Parent N					_	ed or probl <b>e</b> ma	
	Layer (if observed)									
Type: Depth (in	ch <b>e</b> s):						Hydric Soil I	Present?	Yes	No
Remarks:										
	Meets F	3								
								15		

WEILAND DETERMINATION DATA FOR	w - Eastern Wouldains and Fledmont Region
Project/Site: Crossville Philo City	y/County: Muskingum Co. sampling Date: 5/18/20
Applicant/Owner: AFP	State: Sampling Point upland
Investigator(s): Se	ction, Township, Range:
Landform (hillslope, terrace, etc.): Slope Local	relief (concave, convex, none):
Subregion (LRR or MLRA): LRN Lat: 39.81044	Long: -81,986519 Datum: NAD 83
Soil Map Unit Name: NUDZ-Westmareland Cuerroy SI	Hloam 1525 I Slove NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation MD, Soil MD, or Hydrology MO significantly dis	/
Are Vegetation (1), Soil (1), or Hydrology (1) naturally proble	
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No Ves	Is the Sampled Area within a Wetland?  Yes No
Patu taken within transmission Liv	ce Rowlopenfield.
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 Plant	s (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Hydrogen Sulfide (	Odor (C1) Drainage Patterns (B10)
	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduc	ced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduc	tion 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 F	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 NoDepth (inches):	/
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	previous inspections), if available:
Remarks:	1
Hydrology Indicators not presen-	t.
. 01	· ·
1)	

50% of total cover:

50% of total cover:

50% of total cover:

50% of total cover:

Absolute Dominant Indicator

% Cover Species? Status

= Total Cover

= Total Cover

= Total Cover

= Total Cover 20% of total cover:

20% of total cover:\_

Fac

20% of total cover:

20% of total cover:\_

Tree Stratum (Plot size: 301)

Sapling/Shrub Stratum (Plot size:

noue

1 Nove

Herb Stratum, (Plot size:

Sampling Point: upland **Dominance Test worksheet:** Number of Dominant Species That Are OBL, FACW, or FAC: (A) **Total Number of Dominant** Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: x 1 = OBL species FACW species \_\_\_\_\_ x 2 = \_\_\_\_ FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_ FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_ 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% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. **Definitions of Four Vegetation Strata:** Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 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 vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present?

Remarks: (Include photo numbers	here or on a separate sheet.)
Fac Upland Veg is	dominant

Woody Vine Stratum (Plot size: 2017

noul

72	n needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features  Color (moist)% Type <sup>1</sup> _Loc <sup>2</sup>	Texture Remarks
	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	S I Remarks
0-16 104K413 100		
		<u></u>
		·
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=F	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
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)
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N,	<ul><li>Redox Depressions (F8)</li><li>Iron-Manganese Masses (F12) (LRR N,</li></ul>	
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 14	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147	
Restrictive Layer (if observed):		
Туре:		
Depth (inches):	-	Hydric Soil Present? Yes No
Hudric Sails	not present.	
1660 (0.001)	no present.	
1		
	9	
		.8
	*	

Carlo	- Eastern Mountains and Pledmont Region
Project/Site: CYOOLSWILL Phild City/	County: Muskingum Co. sampling Date: 5/18/20
Applicant/Owner:	State: A Sampling Point wetland
Investigator(s): Sect	ion, Township, Range:
	lief (concave, convex, none): CMCWC Slope (%): O(
Subregion (LRR or MLRA): LBRN Lat: 39.80 (A19	Long: 81.912686 Datum: NAD 83
	odm 15-251. Slaps NWI classification: PUBGX
Are climatic / hydrologic conditions on the site typical for this time of year?	700
Are Vegetation MD_, Soil MD_, or Hydrology MO_ significantly distu	
Are Vegetation $\Lambda_0$ , Soil $\Lambda_0$ , or Hydrology $\Lambda_0$ naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sar	npling point 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	135 <u></u>
Remarks: Wetland data for W003-PSS-CAT	TMOD2
	,
Pata taken along transmission live	BAULENCED PUSTURE
Math went allowed winsoms morning	TION HEREOT POSITIVE.
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 Oc	
	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (	
Algal Mat or Crust (B4) Other (Explain in Re	
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)	AC-Neutral Test (D5)
Field Observations:	()
Surface Water Present? Yes No Depth (inches): 1	
Water Table Present? Yes Vo 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, pre	evious inspections), if available:
Remarks: Lud (Now ) In dicusto & Miles Al M2 M2 To	1700 M M M
Hydrology Indicutors are A1,A2,A3,E	71,C3,C9,D4,D5,
1	, and the second
9	

Tree Stratum (Plot size: 301/	Absolute	Dominant		Dominance Test worksheet:	
1. Novel		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:	A)
3				Total Number of Dominant Species Across All Strata:	3)
5		::====		Percent of Dominant Species That Are OBL, FACW, or FAC:	VB)
6	-			Prevalence Index worksheet:	
7					
	$\cap$	= Total Cov	er	Total % Cover of: Multiply by:	
50% of total cover:		total cover:		OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 5 )				FACW species x 2 =	
	20	M	Tade 1	FAC species x 3 =	
1. Ager Saccharinum			Facili		
2. Salx Mara	_20_	_\_	(70)	FACU species x 4 =	
3. Cornus amomum	20	V	Fach	UPL species x 5 =	
4				Column Totals: (A) (	(B)
5			-	Prevalence Index = B/A =	
			·	Hydrophytic Vegetation Indicators:	
7,				1 - Rapid Test for Hydrophytic Vegetation	
8,		10	V	✓2 - Dominance Test is >50%	
9		/:		3 - Prevalence Index is ≤3.0¹	
	(e)	= Total Cov	er	C	.
50% of total cover:				4 - Morphological Adaptations <sup>1</sup> (Provide suppor	ting
Herb Stratum (Plot size: 5/ )				data in Remarks or on a separate sheet)	
1. Nove				Problematic Hydrophytic Vegetation¹ (Explain)	
2					
L			00 00	Indicators of hydric soil and wetland hydrology mus	st
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5					.
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm)	
7				more in diameter at breast height (DBH), regardless	s of
				height.	- 1
8				Sapling/Shrub - Woody plants, excluding vines, les	ss
9				than 3 in. DBH and greater than or equal to 3.28 ft (	
10				m) tall.	.
11,					
112-	7	T 4 10		Herb – All herbaceous (non-woody) plants, regardle	ess
		= Total Cove	er	of size, and woody plants less than 3.28 ft tall.	- 1
50% of total cover:	20% of	total cover:		Woody vine - All woody vines greater than 3.28 ft i	in I
Woody Vine Stratum (Plot size: 30')				height.	
1. nall					
2.					
3					
4				Hydrophytic	
5.				Vogatation	
	0	Total Cove	or I	Present? Yes \/ No	
50% of total cover:					
		total cover.			
Remarks: (Include photo numbers here or on a separate s	heet.)				
Wetlandveg is dominant	٠				

Profile Description: (Describe to the de	pth needed to docum	ent the indicator	or confirm	the absence of	of indicators.)
Depth Matrix		Features		¥	Demode
(inches) Color (moist) %	Color (moist)	% Type¹	Loc²	Texture_	Remarks
0-10 10/K4/1 82	COARDIO	12	PU	lod M	
			5		-
					<del></del>
			8		
\ <u></u>			-		<u></u>
<u> </u>	X ====================================				
<sup>1</sup> Type: C=Concentration, D=Depletion, RN	M=Reduced Matrix, MS=	=Masked Sand Gra	ains.	<sup>2</sup> Location: PL	=Pore Lining, M=Matrix.
Hydric Soil Indicators:	Trouble Marin, Me				tors for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Dark Surface (	(S7)		20	em Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Beld	ow Surface (S8) (N	ILRA 147,	148) Co	past Prairie Redox (A16)
Black Histic (A3)		face (S9) <b>(MLRA 1</b>	47, 148)		(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed				edmont Floodplain Soils (F19)
Stratified Layers (A5) 2 cm Muck (A10) (LRR N)	✓ Depleted Matri Redox Dark Si				(MLRA 136, 147) ery Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark	• •			her (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depres				(=-p-=,
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganes	se Masses (F12) (I	LRR N,		
MLRA 147, 148)	MLRA 136)				
Sandy Gleyed Matrix (S4)		e (F13) (MLRA 13			cators of hydrophytic vegetation and
Sandy Redox (S5)		dplain Soils (F19)			land hydrology must be present, ess disturbed or problematic.
Stripped Matrix (S6)  Restrictive Layer (if observed):	Red Parent Ma	aterial (F21) (MLR	A 127, 147	) unie	ess disturbed of problematic.
Type:					
Depth (inches):				Hydric Soil F	Present? Yes No
Remarks:	<del></del>			Tiyane con i	103
Meets F3					
I MECTS 12					
				5	
=					

WEILAND DETERMINATION DATA FO	ORWI - Eastern Mountains and Fledmont Region
Project/Site: Consville Philo	City/County: MUSKIWAUM CO. Sampling Date: 5 18 20
Applicant/Owner:	State: OH Sampling Point wetland
Investigator(s):	Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Lo	ocal relief (concave, convex, none): Slope (%):
Subregion (LRR or MLRA): LBRN Lat: 39, 8000	075 Long: 81.994239 Datum NAD83
Soil Map Unit Name: LK-LindSide SIHlalm ()-3%.	Slows NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of y	rear? Yes No (If no, explain in Remarks.)
Are Vegetation <u>MD</u> , Soil <u>MD</u> , or Hydrology <u>MO</u> significantl	y disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation $\underline{\underline{n}}\underline{0}$ , Soil $\underline{\underline{n}}\underline{0}$ , or Hydrology $\underline{\underline{n}}\underline{0}$ naturally provided in the second sec	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Yes No	Is the Sampled Area within a Wetland? Yes No
Wettand data for WOO4-PEM-C	
Data taken within fenced pastu	146.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	WAS SHOWN AND MALE AND A SHOWN AS
,Surface Water (A1) True Aquatic F	Plants (B14) Sparsely Vegetated Concave Surface (B8)
✓ High Water Table (A2)	fide Odor (C1) Drainage Patterns (B10)
✓ Saturation (A3) ✓ Oxidized Rhiz	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of R	leduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron R	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Sui	
Algal Mat or Crust (B4) Other (Explain	
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) Field Observations:	
Surface Water Present? Yes No Depth (inches	2). ——
Water Table Present? Yes No Depth (inches	.011
Saturation Present? Yes No Depth (inches	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photons are considered by the content of the conte	
Highrology Indicators are AZ, AZ	(3,02,05
	~

2010	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size: 2017		Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:	A)
2 3		is=====		Total Number of Dominant Species Across All Strata:	В)
4				Percent of Dominant Species That Are OBL, FACW, or FAC:	A/B)
6				Prevalence Index worksheet:	_
7			i:		
		= Total Cov		Total % Cover of: Multiply by:	
50% of total cover:	20% of	total cover:		OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 151)				FACW species x 2 =	
1. poul				FAC species x 3 =	
2				FACU species x 4 =	
(2 <sup>n</sup> )				UPL species x 5 =	
3 4				Column Totals: (A)	(B)
5				Prevalence Index = B/A =	
6		72	-	Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8			// <u></u>	2 - Dominance Test is >50%	
9				<del></del>	
	0	= Total Cov	er	3 - Prevalence Index is ≤3.0¹	
50% of total cover:				4 - Morphological Adaptations <sup>1</sup> (Provide suppo	rting
Herb Stratum (Plot size: 5 ( )			-	data in Remarks or on a separate sheet)	
1. Thalar o arundinaced	30	$\rightarrow$	Fach	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
2. Juncus effusus	_30_		tuch		. 1
3. Impates no Capensis	30	V	Fach	Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic.	st
4. Minulus alatus	10	N	apl	·	
	10/		المحطلية	Definitions of Four Vegetation Strata:	
5				Tree - Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	
7				height.	
8				Sapling/Shrub - Woody plants, excluding vines, le	255
9				than 3 in. DBH and greater than or equal to 3.28 ft	
10				m) tall.	
11		3-2		Harb All barbassaus (pap woods) plants regard	
		= Total Cove	ar .	Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	C33
50% of total cover:					
Woody Vine Stratum (Plot size:)		total oo rong		Woody vine - All woody vines greater than 3.28 ft	in
				height.	
1. NOVO		-	-		
2					- 1
3					
4				Hydrophytic	- 1
5					
	0 :	= Total Cove	эг	Present? Yes No	
50% of total cover:	20% of	total cover:			
Remarks: (Include photo numbers here or on a separate s					
Wettand veg is dominant	·				
	•				

Depth   Mark   Color (molst)   %   Color (molst)   %   Type: Loc   Taxture   Remarks	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains  Hydric Soll Indicators:  Histosol (A)  Histosol (A	Depth			Redox Features							
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soll Indicators:  Histosol (A(1) Histos (A(2) Histosol (A(2) Histosol (A(2) Histosol (A(2) Histosol (A(3) Histosol	(inches)	Color (moist)	%	Color (moist)	- %	Type <sup>1</sup>	_Loc²	<u>Texture</u>	R	emarks	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators: Historal (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratel Layers (A5) Z orn Muck (A10) (MLRA 147, 148) Hydrogen Sulfide (A4) Stratel Layers (A5) Z orn Muck (A10) (MLRA 147, 148) Hydrogen Sulfide (A4) Sandy Muchy Mineral (S1) Thin Dark Surface (S9) (MLRA 147, 148) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N) MLRA 147, 148) Sandy Redox (A12)	0-6	1011241Z	85	25/123/10	15	C	PL	SL.			
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators: Historal (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratel Layers (A5) Z orn Muck (A10) (MLRA 147, 148) Hydrogen Sulfide (A4) Stratel Layers (A5) Z orn Muck (A10) (MLRA 147, 148) Hydrogen Sulfide (A4) Sandy Muchy Mineral (S1) Thin Dark Surface (S9) (MLRA 147, 148) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N) MLRA 147, 148) Sandy Redox (A12)	10-10	014517	25	75/183/10	15	C	0,	Tour			
Hydric Soil Indicators:	0 14	109N OL		r. odivola	17		10	100(111			
Hydric Soil Indicators:						31					
Hydric Soil Indicators:											
Hydric Soil Indicators:			*								-
Hydric Soil Indicators:		-	-								
Hydric Soil Indicators:											
Hydric Soil Indicators:											
Hydric Soil Indicators:	=	=									
Hydric Soil Indicators:											
Hydric Soil Indicators:											
Hydric Soil Indicators:											
Hydric Soil Indicators:	-	÷				·		-			
Histosol (A1) Histo Epipedon (A2) Black Histo (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Joepleted Matrix (F2) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gieyed Matrix (S4) Striple Matrix (S5) Stripped Matrix (S4) Stripped Matrix (S6) Redox Core (S7) MLRA 136, 147)  Discount Form of the Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (S4) Depteted Matrix (S4) Depteted Dark Surface (F7) Depteted Dark Surface (F7) Depteted Dark Surface (F7) Depteted Dark Surface (F8) Uvery Shallow Dark Surface (F12) Other (Explain in Remarks)  NuRA 136, 147) Wery Shallow Dark Surface (F12) Other (Explain in Remarks)  All Cast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Wery Shallow Dark Surface (F12) Other (Explain in Remarks)  All Cast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Other (Explain in Remarks)  All Cast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Other (Explain in Remarks)  All Cast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Other (Explain in Remarks)  All Cast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Other (Explain in Remarks)  All Cast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 147, 148) Piedmont Floo			pletion, RM	#=Reduced Matrix, MS	=Masked	Sand Gr	ains.				
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 Mucky Mineral (S1) (LRR N) MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Polyvalue Below Surface (S9) (MLRA 147, 148) (MLRA 143, 147) (MLRA 136, 147) Very Shallow Dark Surface (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Remarks:  Method Science (S1) (MLRA 127, 147)  Remarks:  Hydric Soil Present? Yes No	Hydric Soil	Indicators:						Indicat	ors for Probler	natic Hy	dric Soils <sup>3</sup> :
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thir Dark Surface (F6) Depleted Dark Surface (F7) Entick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N) Sandy Mucky Mineral (S1) (LRR N) Sandy Mucky Mineral (S1) (LRR N) Sandy Redox (S5) Pidmont Floodplain Soils (F19) MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S8) Redox Dark Surface (F12) Pidmont Floodplain soils (F19) MLRA 136, 147) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Method S of Praine Redox (A16) (MLRA 147, 148) (MLRA 1436, 147) (MLRA 1436, 147) (MLRA 1436, 147) Very Shallow Dark Surface (F12) Other (Explain in Remarks)  Thir Dark Surface (F12) (MLRA 136, 147) Very Shallow Dark Surface (F12) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Method S of Number 147, 148)  Pidmont Floodplain Soils (F19) (MLRA 147, 148) (MLRA 1436, 142) (MLRA 1436, 142) (MLRA 1436, 142) (MLRA 147, 148) (MLRA 1	Histosol	(A1)		Dark Surface	(S7)			2 c	m Muck (A10) (	MLRA 14	17)
Black Histic (A3)	1					ce (S8) (N	ILRA 147,	. <b>148)</b> Co:	ast Prairie Redo	ox (A16)	
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Redox Dark Surface (F3) (MLRA 136, 122) Sandy Redox (S5) Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Hydrogen Sulfide (A4) Depleted Matrix (F2) Depleted Matrix (F2) Depleted Dark Surface (F19) (MLRA 136, 147) (WLRA 136, 147) Other (Explain in Remarks)  Other (Explain in Remarks)  Piedmont Floodplain Soils (F19) (MLRA 136, 147) Other (Explain in Remarks)  Other (Explain in Remarks)  Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Remarks:  Mech F3  Remarks:  No											
Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Bellow Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 136, 142)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Redox Depressions (F8)  Umbric Surface (F12) (LRR N, MLRA 136, 122)  Pledmont Floodplain Solis (F19) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  Restrictive Layer (if observed):  Type:  Depth (inches):  Remarks:  MLCS F3  Depleted Matrix (F3)  Redox Dark Surface (F7)  Redox Depressions (F8)  Unbric Surface (F12)  Umbric Surface (F13) (MLRA 136, 122)  Pledmont Floodplain Solis (F19) (MLRA 148)  Red Parent Material (F21) (MLRA 127, 147)  Restrictive Layer (if observed):  Type:  Depth (inches):  Remarks:											F19)
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 Medox (S5) Sandy Gleyed Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 147, 147)  Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Depleted Dark Surface (F7) Redox Depressions (F8) Red Nasses (F12) (LRR N, MLRA 136, 122) Umbric Surface (F13) (MLRA 136, 122) Jindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Pedmont Floodplain Soils (F19) (MLRA 147, 147)  Restrictive Layer (if observed): Type: Depth (inches):  Remarks:  Hydric Soil Present? Yes No						6)					(TF12)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Depth (inches):  Temarks:  Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Iron-Manganese Masses (F12) (MLRA 136, 122) Iron-Manganese Masses (F12) (MLRA 148) MLRA 136, 122) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Iron-Manganese Masses (F12) (LR N, MLRA 136, 122) Iron-Manganese Masses (F12) (LR N, MLRA 136, 122) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 12			ce (A11)								` ′
Sandy Mucky Mineral (S1) (LRR N, MLRA 136)  Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:    Iron-Manganese Masses (F12) (LRR N, MLRA 136)   MLRA 136, 122)   Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic.    Hydric Soil Present? Yes No			( ,					<del>_</del>	- ( )	,	
MLRA 147, 148)  Sandy Gleyde Matrix (S4) Sundy Gleyde Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147)  Restrictive Layer (if observed):  Type: Depth (inches): Remarks:    Meets F3   Mark 136, 122   Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.    Hydric Soil Present? Yes No   No			LRR N.				LRR N.				
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)   Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 148)   wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No Remarks:	1		(2,			o- (, ,=, (	<b>-</b> ,				
Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Meets F3.						MIRA 13	6 122)	3Indic	ators of hydron	hytic vegs	etation and
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No  Remarks:											
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Meets F3.											
Type:					iatoriai (i	21/ (INIEIX	A 127, 14.	1, 4,110	oo diotal bod of	problema	
Depth (Inches):											
Remarks: Meets F3.										/	
Meets F3.	Depth (in	ches):						Hydric Soil P	resent? Yes		No
	Remarks:										
		Moete	13								
		1 (CCC)	, , ,								
								G.			
5											
5											1
5											
5											
·											

WETLAND DETERMINATION DATA FORM	
Project/Site: CYOOKS VILLE PMID City/O	County: Muskingum (0 - Sampling Date: 5/18/20
Applicant/Owner: AEP	State: Sampling Point upland
No. 1	on, Township, Range:
	ief (concave, convex, none): Slope (%): O ( .
Subregion (LRR or MLRA): LRR Lat: 31,806503	Long: <u>81,994287</u> , Datum: NAD 83
Soil Map Unit Name: M-Wodel Joan	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Y	'es No (If no, explain in Remarks.)
Are Vegetation $MO$ , Soil $MO$ , or Hydrology $MO$ significantly distur	bed? Are "Normal Circumstances" present? Yes No
Are Vegetation $\underline{\text{MO}}$ , Soil $\underline{\text{MO}}$ , or Hydrology $\underline{\text{MO}}$ naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  Yes No	Is the Sampled Area within a Wetland? Yes No
Remarks: Upland datu for W003 & W004	
Data taken within Fenced pastu	ure.
LIVEROL OCY.	
HYDROLOGY	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators:  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	
	es on Living Roots (C3) Moss Trim Lines (B16)
Saturation (AS) Oxidized rollizosphick Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2)  Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C	
<u> </u>	•
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):	
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, pre	vious inspections), if available:
Remarks:	
Hydrology Is not present.	

Sampling Point: upland

2010	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 )	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
7		Total % Cover of:Multiply by:
1004 Table 1, 1504 1, 1504 1	= Total Cover	
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 5')		FACW species x 2 =
1. NOV		FAC species x 3 =
		FACU species x 4 =
2		UPL species x 5 =
3		
4		Column Totals: (A) (B)
5.		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7,		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0¹
	= Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:	20	Problematic Hydrophytic Vegetation¹ (Explain)
1. Doctylis olomeratu	30 Y tack	
2. Jaraxacum otticinale	10 N Fact	/
3. Trifolium pratense	30 V Fac	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Mantuan Idnceplatu	TO N Fact	
5. Anthoxa Whum odoratum	20 V Fact	Definitions of Four Vegetation Strata:
		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of
7	· :	height.
8	(1)	Sapling/Shrub – Woody plants, excluding vines, less
9,		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11		Herb – All herbaceous (non-woody) plants, regardless
	Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	
50% of total cover:		Woody vine – All woody vines greater than 3.28 ft in
1. Nohl		height.
	773 - 772	
2	10 10	
3		
4		Hydrophytic
5		Vegetation
	= Total Cover	Present? Yes No
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	
Upland veg is dominant		
- 4		

1-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)	
Depth Matrix Redox Features  Color (motor) 20 Tourist Log2 Tourist Permarks	
(inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks	
0-16 104K413 100 SL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Pl=Pore Lining, M=Matrix.  Indicators for Problematic Hydric	Soile <sup>3</sup> :
•	Solis .
Histosol (A1)	
Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19	,
Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147)	´
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF	12)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks)	
Thick Dark Surface (A12) Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)  MLRA 136)  See the Claused Matrix (CA)  Under the Surface (CA2) (MLRA 436, 422)  September 1 April 1 A	on and
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) 3Indicators of hydrophytic vegetati Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be prese	
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present in Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic.	, i'i',
Restrictive Layer (if observed):	
Type:	_
Depth (inches): No	ا كــــــ
Remarks	
Hydric Soils not present.	
rigatic soils that present.	
13	

0/21 0/ 1 1/20/03/1 1/20/1	I – Eastern Mountains and Pleamont Region
Project/Site: Ct/WSVIIQ Philo City.	/County: MUSKINGUMCO Sampling Date: 5/18/20
Applicant/Owner: ACP	State: OH Sampling Point wetland
Investigator(s): Sec	tion, Township, Range:
Landform (hillslope, terrace, etc.): De Wesslow Local re	elief (concave, convex, none): Slope (%):
Subregion (LRR or MLRA): LBR N Lat: 31.802273	Long: 82.001986 Datum: NAD 83
Soil Map Unit Name: BhK4F-BethsdaChannerySiHa	M 25-70/Slogs NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	/ 1
Are Vegetation No , Soil No , or Hydrology No significantly distr	
Are Vegetation $(1)$ , Soil $(1)$ , or Hydrology $(1)$ naturally probler	
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Remarks: Wetland data for W005-PEM-CAT	2
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Data taken within transmission line F	20W/men field
Ma later housing and self- 100, 21	
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 O	
	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduct	
	ion in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface Algal Mat or Crust (B4) Other (Explain in Re	
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):	<del></del>
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, pr	revious inspections), if available:
Description	
Remarks:	2 02
Hydrology Indicators are Az, Az, Cz	5,UZ,D5.
	*

2010	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 301)	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2 3		Total Number of Dominant Species Across All Strata: (B)
4 5		Percent of Dominant Species
6.		
7.		Prevalence Index worksheet:
	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 57)		FACW species x 2 =
1. Noul	- 1 <u></u>	FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6.		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8,	* *	Dominance Test is >50%
9	$\sim$ $\sim$	3 - Prevalence Index is ≤3.0 <sup>1</sup>
	= Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	30 1/ 51	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Pholars arundinacea 2. Juncus ettusus 3. Cerex vulipinoides 4. Onocled sensibilis 5. 6.		¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Four Vegetation Strata:  Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7		height.  Sapling/Shrub – Woody plants, excluding vines, less
10		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11,	Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)  1.   Websize:)	20% of total cover:	Woody vine – All woody vines greater than 3.28 ft in height.
2		
3	·——	
4		Hydrophytic
5		Vegetation   Present?   Yes No
50% of total cover:	= Total Cover	100 100
Remarks: (Include photo numbers here or on a separate  Wettand Veg 5 dominor	A	E .
		ω
		*

Profile Description: (Describe to the depth i	needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	Tavkus
(inches) Color (moist) %	Color (moist) % Type¹ Loc²	Texture Remarks
OHO INHALL OD T	3/K3/U 15 C YC	<u> </u>
20 000		
		<del></del> !
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Re	educed Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147,	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	✓ Depleted Matrix (F3)      Redox Dark Surface (F6)	(MLRA 136, 147) Very Shallow Dark Surface (TF12)
2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11)	Nedox Bark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 14	
Stripped Matnx (S6)	Red Parent Material (F21) (MLRA 127, 147	) unless disturbed or problematic.
	Ted Farent Waterial (F21) (WEIGH 121, 141	) unless distarbed of problematic.
Restrictive Layer (if observed):	Red Farent Matchal (F21) (Match 121, 141	) unless distarbed of problematic.
	- Red Farent Matchai (F21) (MERCH 121, 147	
Restrictive Layer (if observed):	Tee Farent Material (1 21) (MERS 121, 141	Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:	Tee Farent Material (121) (MERS 121, 147	
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:	Tee Farent Material (121) (MERS 121, 147	
Restrictive Layer (if observed):  Type:  Depth (inches):	Tee Farent Material (121) (MERS 121, 147	
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:	Tee Farent Material (121) (MERCH 121), 147	
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:	Tee Farent Material (121) (MERCH 121), 147	
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:	Tee Farent Matchai (F21) (MERCH 121), 147	
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:	Tee Farent Matchai (F21) (MERCH 121), 144	
Restrictive Layer (if observed):  Type: Depth (inches): Remarks:		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Muts F3.	77. 78.	Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Muts F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Muts F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Muts F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med 5 73.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med5 F3.		Hydric Soil Present? Yes No
Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  Med 5 73.		Hydric Soil Present? Yes No

	- Eastern Wountains and Fledmont Region
Project/Site: CraySville Philo City/C	ounty: Muskingum (0 - Sampling Date: 5/18/20
Applicant/Owner:	State: Off Sampling Point: upland
14.1	on, Township, Range:
Landform (hillslope, terrace, etc.): Local reli	ef (concave, convex, none):Slope (%):
Subregion (LRR or MLRA): LRRN Lat; 39.802039	Long: -82,002156 Datum: NAD83
Soil Map Unit Name: WUDZ-WESTMORGANG GUERNEW SIH	CUM 15-25/SlavSnWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? You	/ . 1
Are Vegetation $MD$ , Soil $MD$ , or Hydrology $MD$ significantly disturb	
Are Vegetation $10$ , Soil $10$ , or Hydrology $10$ naturally problema	
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No Yes Yes No Yes No Yes No Yes Yes No Yes No Yes Yes Yes Yes No Yes	Is the Sampled Area within a Wetland?  Yes No
Data taken within transmission line	Rowlopen field.
HYDROLOGY	
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)	or (C1)
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	vious inspections), if available:
Remarks:	
Hydrology Indicators are not	present.

Sampling Point: upland

201	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30'( )	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
3		Total Number of Dominant Species Across All Strata:  (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6.		, ,
7.		Prevalence Index worksheet:
	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 151)		FACW species x 2 =
1. NOW		FAC species x 3 =
2.		FACU species x 4 =
		UPL species x 5 =
3		Column Totals: (A) (B)
4		
5 6		Prevalence Index = B/A =
13-		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.01
F00/ -F4-4-1	= Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
(-10	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:	20 11 5011	Problematic Hydrophytic Vegetation¹ (Explain)
1. Anthoxanthum pagratum	Taco	
2. Trifglium pratense	- 15 Hay	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Plantago Mayor.	5 N Lack	be present, unless disturbed or problematic.
4. Androposon Virginicus	15 N 4al	Definitions of Four Vegetation Strata:
5. Achilles milletolium	IO N Fact	•
6. Dancies Carola	5 N (p)	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of height.
8		
		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		,
11,	Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:		
Woody Vine Stratum (Plot size:	20 /0 01 total 00 vol	Woody vine - All woody vines greater than 3.28 ft in
1. NOVL		height.
1.1000	· — · — · — ·	
2		
3		
4	·	Hydrophytic
5		Vegetation Present? Yes No
	= Total Cover	Present?
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	•
	£	
Upland veg is dominar	<del>/</del>	
planes.	or or la	

Profile Description: (Describe to the depth n	eeded to document the indicator o	or confirm the	e absence of indica	ators.)
Depth Matrix	Redox Features  Color (moist)% Type¹	Loc²	Taxtura	Remarks
	Color (moist) % Type <sup>1</sup>	_LOC	Texture	Remarks
2-16 104R4B 100 _				e
<u> </u>				
				,
· · · · · · · · · · · · · · · · · · ·				
I				
S				
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Red	luced Matrix, MS=Masked Sand Gra	ins. <sup>2</sup> Lo	ocation: PL=Pore L	ining, M=Matrix.
Hydric Soil Indicators:			Indicators for	Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	_ Dark Surface (S7)			(A10) <b>(MLRA 147)</b>
Histic Epipedon (A2)	_ Polyvalue Below Surface (S8) (M		, —	rie Redox (A16)
Black Histic (A3)	_ Thin Dark Surface (S9) (MLRA 1	47, 148)	,	<b>147, 148)</b> Floodplain Soils (F19)
Hydrogen Sulfide (A4) Stratified Layers (A5)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)			136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)		•	ow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Other (Exp	lain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)			
Sandy Mucky Mineral (S1) (LRR N,	_ Iron-Manganese Masses (F12) (L	.RR N,		
MLRA 147, 148)	MLRA 136) _ Umbric Surface (F13) (MLRA 130	: 422\	3Indicators of	hydrophytic vegetation and
Sandy Gleyed Matrix (S4) Sandy Redox (S5)	_ Piedmont Floodplain Soils (F19)			rology must be present,
Stripped Matrix (S6)	_ Red Parent Material (F21) (MLR/			rbed or problematic.
Restrictive Layer (if observed):				
Туре:				
Depth (inches):		Н	lydric Soil Present	? Yes No <u>\</u>
Remarks:	0			
Hydric Soils no	t hype ( in t)			
11901 (6 2013 110	prescue.			

V25 12 F24 1 Des 25 Lab	- Eastern Mountains and Pleamont Region
Project/Site: Crooks VIIU Philo City/0	County: MUSKIRGUMCO . Sampling Date: 5/18/20
Applicant/Owner:	State: Off Sampling Point wetland
12151	on, Township, Range:
	lief (concave, convex, none): CONCOUL Slope (%): O
Subregion (LRR or MLRA): LBKN Lat: 39.801003	Long: -82.003/694 Datum: NAD83
Soil Map Unit Name: NUEZ-Westmockanol Gremocy Sill	Jodm 25-40'/ Slope Classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	,
Are Vegetation MO_, Soil MO_, or Hydrology MO_ significantly distur	A CONTROL OF THE PROPERTY OF T
Are Vegetation $\Omega_{\bullet}$ , Soil $\Omega_{\bullet}$ , or Hydrology $\Omega_{\bullet}$ naturally problem	
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  Yes No	Is the Sampled Area within a Wetland? Yes No
Data taken within transmission line	- 0
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 Od	lor (C1) Drainage Patterns (B10)
Saturation (A3)/Oxidized Rhizospher	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reduction	—
Drift Deposits (B3) Thin Muck Surface (0	GROW 15 D. 15 NOVE ST
Algal Mat or Crust (B4) Other (Explain in Rer	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Shallow Aquitard (D3) Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	<u></u>
Surface Water Present? Yes 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, pre	
2008/100 NOON DOLLAR GEORGE, MONING WON, CONTROL PROTOCO, P. C.	The state of the s
Remarks:	
Hydrology Indicators are C3, DZ,	D5.
id.	
	2

2010	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30'C)	% Cover Species? Status	Number of Dominant Species 3
1 4 V 1 V V		That Are OBL, FACW, or FAC: (A)
2		7
3		Total Number of Dominant Species Across All Strata:  (B)
- 22		Species Across All Strata: (B)
4		Percent of Dominant Species
5	07 05 05 05	That Are OBL, FACW, or FAC: (A/B)
6	· · · · · · · · · · · · · · · · · · ·	
7.		Prevalence Index worksheet:
<del></del>	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
50 % of total cover.	20% of total cover	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 151)		
1. nore		FAC species x 3 =
2,		FACU species x 4 =
3		UPL species x 5 =
		Column Totals: (A) (B)
4		(-)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7-		
8		1- Rapid Test for Hydrophytic Vegetation
		∠ 2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 <sup>1</sup>
	= Total Cover	4 - Morphological Adaptations (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:		
1. Juneus effusus	40 V Fach	Problematic Hydrophytic Vegetation¹ (Explain)
2. Scirbus Cuberinus	40 J Facw	
		Indicators of hydric soil and wetland hydrology must
3. Eupativium perfoliatum	20 y tack	be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5		
6		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
		more in diameter at breast height (DBH), regardless of
7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11	1/1/2	Herb – All herbaceous (non-woody) plants, regardless
- 000s PM	Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30')		height.
1. None	99 <u></u>	*
2.		
3	·	
4		Hydrophytic
5		Variation
	= Total Cover	Present? Yes No No
50% of total cover:		
Remarks: (Include photo numbers here or on a separate	·	
Wetland veg 15 domi		
Wetland vez 15 amil	nant,	
0 -		
		I

Profile Description: (Describe to the de	pth needed to document the indicator or confirm	the absence of indicators.)		
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type¹ Loc² Texture Remarks			
(inches) Color (moist) %	7 S 1 V 3 ( a 15 C )	Clayloam		
101K41 20		Comatrix color		
10,1014/10 15		Co-matrix color		
- 104K-710 1.2	· · · · · · · · · · · · · · · · · · ·	COMMANIA LOIGH		
		<del></del>		
<u></u>				
	0 <del>r</del>			
	N			
	I=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Indicators:	Deals Surface (C7)	Indicators for Problematic Hydric Soils <sup>3</sup> :		
Histosol (A1) Histic Epipedon (A2)	Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147,	2 cm Muck (A10) (MLRA 147) 148) Coast Prairie Redox (A16)		
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)		
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)		
Stratified Layers (A5) 2 cm Muck (A10) (LRR N)	✓ Depleted Matrix (F3)  Redox Dark Surface (F6)	(MLRA 136, 147) Very Shallow Dark Surface (TF12)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)		
Thick Dark Surface (A12)	Redox Depressions (F8)			
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	Iron-Manganese Masses (F12) (LRR N, MLRA 136)			
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and		
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 14			
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147	') unless disturbed or problematic.		
Restrictive Layer (if observed):  Type:				
Depth (inches):		Hydric Soil Present? Yes No		
Domarke:		.,,		
Meets F3	•			
H.				
		12		
	ži.			

	ORM – Eastern Mountains and Pleamont Region
Project/Site: Crooksville Philo	City/County: Muskingum Co. Sampling Date: 5/18/20
Applicant/Owner:	State: Off Sampling Point wetland
Investigator(s): KUV	Section, Township, Range:
(A-4) (A-4) (A-4) (A-4)	ocal relief (concave, convex, none): CONCAVE Slope (%): O
Subregion (LRR or MLRA): LRRN Lat: 39.799	713 Long: 82,005052 Datum: NAD 83
	Hoam 25-701. Slaves NWI classification: PURGX
Are climatic / hydrologic conditions on the site typical for this time of	/:
Are Vegetation $MD$ , Soil $MD$ , or Hydrology $M\delta$ significant	
Are Vegetation $N_0$ , Soil $N_0$ , or Hydrology $N_0$ naturally p	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No	Is the Sampled Area within a Wetland? Yes No
Datatakenwithin transmission	PUB-CATMOD2 Line ROW/open field.
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	
	fide Odor (C1) Drainage Patterns (B10)
	cospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of F	Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron R	teduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Su	rface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	
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:	21
Surface Water Present? Yes No Depth (inche	
Water Table Present? Yes No Depth (inche	
Saturation Present? Yes No Depth (inche includes capillary fringe)	s): Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:
Remarks:	12 02 D2 0-
Hydrology Indicators are AI, AZ	1,43,C3,VL,U3,

24/10	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 50V ) 1. N(NC		Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2				Total Number of Dominant Species Across All Strata:  (B)
4				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: (A/B)
7				Prevalence Index worksheet:
	_0_	= Total Cove	er	
50% of total cover:	20% of	total cover:_		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 (				FACW species x 2 =
1. nace				FACUl appeies x 3 =
2				FACU species x 4 = UPL species x 5 =
3				Column Totals: (A) (B)
4				Column Totals (A) (B)
5				Prevalence Index = B/A =
7			3	Hydrophytic Vegetation Indicators:
8				- 1 - Rapid Test for Hydrophytic Vegetation
9	-	:::::		✓2 - Dominance Test is >50%
· ·	0	= Total Cove	er	3 - Prevalence Index is ≤3.0 <sup>1</sup>
50% of total cover:				4 - Morphological Adaptations (Provide supporting
Herb Stratum (Plot size:	05			data in Remarks or on a separate sheet)
1. Phalacis arundinaced 2. Imputiens Capensis 3. Carex "Valginadaa 4. Typha xalauca 5. Dich anthelium Clandestinu 6. 7.		<del>*************************************</del>	Factor Col Factor Factor	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Four Vegetation Strata:  Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		N <del></del> N		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11	155	Total Cove		<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)	20% of	total cover:_		Woody vine – All woody vines greater than 3.28 ft in height.
1. NOLL 2		-		
3				
4				Hydrophytic
5	$\overline{\bigcirc}$	= Total Cove		Vegetation Present? Yes \ No
50% of total cover:		total cover:_	1	
Remarks: (Include photo numbers here or on a separate s			= =====================================	
Wetland vez is domina	,			

Profile Desc	ription: (Describe	to the dep	th needed to docum	nent the i	ndicator	or confirm	the absenc	e of indicators.)
Depth	Matrix_	0/		x Features		_Loc <sup>2</sup>	Toyturo	Remarks
(inches)	Color (moist)	25	2510 310	15	Type¹	12/	Texture	Kemarks
0-16	MULTIPOLITICA	D.2	Collos	17		rl		
		***						
	-							
	-							
				-				
						-		
-	-						2	*
		oletion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils <sup>3</sup> :
Hydric Soil			2 1 2 1	(07)				
Histosol			Dark Surface Polyvalue Be		(CO) /5	II DA 447		2 cm Muck (A10) <b>(MLRA 147)</b> Coast Prairie Redox (A16)
Histic Ep   Black Hi	oipedon (A2)		Polyvalue Be				146)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			147, 140)		Piedmont Floodplain Soils (F19)
	i Layers (A5)		Depleted Ma		,			(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		6)			Very Shallow Dark Surface (TF12)
	Below Dark Surfac	e (A11)	Depleted Dar	k Surface	(F7)		_	Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan		es (F12) <b>(</b>	LRR N,		
l .	147, 148)		MLRA 13	•		0.400\	3	
	eleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	ledox (S5)		Piedmont Flo					retland hydrology must be present, nless disturbed or problematic.
	Matrix (S6)  ayer (if observed):		Red Parent N	iateriai (F	ZI) (WILK	A 121, 141	, u	mess disturbed of problematic.
Type:								×:
	ches):						Hydric So	il Present? Yes No
	Jiles)						Tiyana da	iii iosciii. Ios No
Remarks:			_					
	1	leets'	13					
	1	pecco	' /,					
ľ,								
7								

WEILAND DETERMINATION DATA FORM	
Project/Site: Cruoksville Philo City/C	County: MUSKINGUM CO Sampling Date: 5/18/20
Applicant/Owner:	State: Sampling Point upland
Investigator(s): Section	on, Township, Range:
Landform (hillslope, terrace, etc.): Super Local rel	lief (concave, convex, none): CONV (X Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 39.800402	Long: <u>-82.004319</u> Datum: <u>NAO 83</u>
Soil Map Unit Name: Bet Berks Channery Sittladm	25+035 \ Sax NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation $\frac{N0}{2}$ , Soil $\frac{N0}{2}$ , or Hydrology $\frac{N0}{2}$ significantly distur	
Are Vegetation $\underline{MU}$ , Soil $\underline{M()}$ , or Hydrology $\underline{MU}$ naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Yes No  Yes No	Is the Sampled Area
Wetland Hydrology Present?	within a Wetland? Yes No
7 7 10 10 10 10 10 10 10 10 10 10 10 10 10	
pland data for wood & woor	and In Call
Datu taken within transmission Line	e holy open Held.
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	
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	· · · — ·
Sediment Deposits (B2) Recent Iron Reductio	· · — · · · · · · · · · · · · · · · · ·
Drift Deposits (B3) Thin Muck Surface (C	<u> </u>
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):  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, pre	vious inspections) if available:
2008-120 Freedom gauge, mentioning treat, contain priorest, pro	, , , , , , , , , , , , , , , , , , ,
Remarks	
Hydrology is not present.	
10 3	
185	

Sampling Point: upland

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2010	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 301)	The state of the s	Species?	_Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		·——		Total Number of Dominant
3				Species Across All Strata: (B)
4 5		×———	::	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6			( <del></del>	Prevalence Index worksheet:
7		·—		Total % Cover of: Multiply by:
5000 27 47		= Total Cov		OBL species x1 =
50% of total cover:	20% or	total cover:		FACW species x 2 =
W./// 0				FAC species x 3 =
				FACU species x 4 =
2				UPL species x5 =
3				
4				Column Totals: (A) (B)
5			-	Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
8			×	1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9	$\overline{\cap}$	= Total Cove	or.	3 - Prevalence Index is ≤3.0 <sup>1</sup>
50% of total cover:				4 - Morphological Adaptations (Provide supporting
Herb Stratum (Plot size:		total cover.		data in Remarks or on a separate sheet)
1. Anthoxanthum odoratum	30	1	Fact	Problematic Hydrophytic Vegetation¹ (Explain)
2. Mantugo lanceolatu	20	$\rightarrow$	FULL	1
3. Tritoklum pratense	30	7	tace	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Daucus carale	10	NI_	Upl	Definitions of Four Vegetation Strata:
5. Achilled Millefolium	- 10_	17	AUC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		-		more in diameter at breast height (DBH), regardless of height.
8				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11	3.1			Herb – All herbaceous (non-woody) plants, regardless
	100	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover:_		Woody vine – All woody vines greater than 3.28 ft in height.
1. None	5:	·	, <del>, , ,</del>	
2	<del></del>	<del> </del>	-	
3				
4		-	<del></del>	Hydrophytic
5	_			Vegetation Present? Yes No
		Total Cove		Present? Yes No
50% of total cover:		total cover:_		
Remarks: (Include photo numbers here or on a separate s	•			
Upland vez is domina	ut.			
	20			

WI

Control of the Contro	th needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
0-16 1048412 100	Color (moist) 70 1 ypg Egg	A .
010 1001912 00		
101/4/13 40		<u>comatrix rolor</u>
, ,		
		<del></del>
<del> </del>		
·		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147,	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and
	Piedmont Floodplain Soils (F19) (MLRA 148	
Sandy Redox (S5)		
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147)	unless disturbed or problematic.
Restrictive Layer (if observed):		
Туре:		
Donth (inches):		Hydric Soil Present? Yes No
Depth (inches):		
D do.		
D do.	ant process of	
D	not present.	
	not present.	
D	not present.	
D	not present.	
D	not present.	+2
D	not present.	€2
D	not present.	
D	not present.	F.3
D	not present.	e:
D	not present.	£3
D	not present.	£3
D	not present.	£3
D	not present.	
D		
D		
D		
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D		
D		
3		
D		
3		

#### WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region City/County: Muskingum Co. Sampling Date: 5 18 20 Project/Site: CraskSulle Philo Applicant/Owner: Investigator(s): KLV Section, Township, Range:\_ Local relief (concave, convex, none): Landform (hillslope, terrace, etc.): DeviceSSum Subregion (LRR or MLRA): LRRN Long: -82.006507 NWI classification: PubGX Soil Map Unit Name: BhK4F-Bethesda Channery St. Hod yn 25-70/Stres Are climatic / hydrologic conditions on the site typical for this time of year? Yes (If no, explain in Remarks.) Are Vegetation 10, Soil 10, or Hydrology 10 significantly disturbed? Are "Normal Circumstances" present? Yes Are Vegetation $\underline{NO}$ , Soil $\underline{NO}$ , or Hydrology $\underline{NO}$ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Yes No Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Wetland data for WOO8-PUB-CATMOD2 Datatakin within PUBGX wetland. **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) \_\_\_ Sparsely Vegetated Concave Surface (B8) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) \_\_\_ Saturation (A3) \_\_\_ Moss Trim Lines (B16) \_\_ Dry-Season Water Table (C2) Presence of Reduced Iron (C4) Water Marks (B1) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Sediment Deposits (B2) 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) Microtopographic Relief (D4) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Aquatic Fauna (B13) Field Observations: No Depth (inches):\_ Surface Water Present? Water Table Present? No \_\_\_\_\_ Depth (inches):\_\_ Wetland Hydrology Present? Yes 🛝 Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology Indicators are AI, AZ, A3, B7, C3, C9, DZ, D5.

2010	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 300 )	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata:  (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/B)
6		, , , , , , , , , , , , , , , , , , , ,
7,		Prevalence Index worksheet:
	= Total Cover	Total % Cover of: Multiply by:
	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 150		FACW species x 2 =
1. None		FAC species x 3 =
2,		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 <sup>1</sup>
	= Total Cover	4 - Morphological Adaptations (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	01	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	30 Y Obl	Troblemate riyarepriyae vegetation (Explain)
2. Sparganium americanum	100 4 001	1 Indicators of hydric coil and watland hydrology must
3		'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5		_
6		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of height.
8		"
9		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11		
	501. = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tail.
50% of total cover:	20% of total cover:	Woody vine – All woody vines greater than 3.28 ft in
1. Nove		height.
2.		
3		
4		Hydrophytic
5		Vegetation Present? Yes \ No
500/ -f h-h-l	= Total Cover	163 <u>1</u> 2 140 <u></u>
50% of total cover:	='	
Remarks: (Include photo numbers here or on a separate s	ft.	
Wollandveg 15 dominat	t.	
•		

Profile Des	cription: (Describe	to the dep	oth needed to docu	ment the	indicator	or confirm	n the absence of indicators.)			
Depth				ox Feature	S	12	Texture Remarks			
(inches)	Color (moist)	<u>%</u>	Color (moist)	15	Type¹	Loc <sup>2</sup>				
0-16	10484/1	33	2.375.74	10_		- IL	Claylan			
-			_		,					
-	V									
	<u>(*</u>			N N						
	10.		-	-	-					
=====	X		=======================================		-					
	( <del></del>									
	×				-		<del></del>			
	· ·									
		pletion, RM	=Reduced Matrix, M	S=Masked	Sand Gr	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
Hydric Soil	Indicators:						Indicators for Problematic Hydric Soils <sup>3</sup> :			
Histoso	, ,		Dark Surfac				2 cm Muck (A10) (MLRA 147)			
	pipedon (A2)		Polyvalue Bo				, 148) Coast Prairie Redox (A16) (MLRA 147, 148)			
	istic (A3) en Sulfide (A4)		Thin Dark Si Loamy Gley			147, 140)	Piedmont Floodplain Soils (F19)			
	d Layers (A5)		Depleted Ma		·· -/		(MLRA 136, 147)			
	uck (A10) (LRR N)		Redox Dark	12000	<del>-</del> 6)		Very Shallow Dark Surface (TF12)			
	d Below Dark Surfa	ce (A11)	Depleted Da				Other (Explain in Remarks)			
	ark Surface (A12)		Redox Depr			I DD N				
	Mucky Mineral (S1) ( <b>A 147, 148)</b>	LRR N,	Iron-Mangar		es (F12) (	LKK N,				
	Gleyed Matrix (S4)		Umbric Surfa	•	(MLRA 13	36, 122)	3Indicators of hydrophytic vegetation and			
	Redox (S5)		Piedmont FI							
	d Matrix (S6)		Red Parent	Material (F	21) <b>(MLR</b>	A 127, 147	7) unless disturbed or problematic.			
Restrictive	Layer (if observed)	):								
Type:										
Depth (in	ches):						Hydric Soil Present? Yes No			
Remarks:	YestSF3.									
l V	geersto.									

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Project/Site: CYUNSMIU Philo	City/County: Muskingu	MCO Sampling Date: 5 8 26			
Applicant/Owner: ACP	J	State: Sampling Point upland			
vestigator(s): KLV Section, Township, Range:					
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, nor	ne): Slope (%):			
Subregion (LRR or MLRA): LBRN Lat: 39.7	19093 Long: <u>-8</u>	32.206427 Datum: NAD 63			
Soil Map Unit Name: BhK4F-Bethesda Channer	ySiHloam 25-70/Slopes	NWI classification: NWI			
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes No (	If no, explain in Remarks.)			
Are Vegetation $\underline{\mathcal{N}}_{\mathcal{O}}$ , Soil $\underline{\mathcal{N}}_{\mathcal{O}}$ , or Hydrology $\underline{\mathcal{N}}_{\mathcal{O}}$ signi	ficantly disturbed? Are "Normal	Circumstances" present? Yes No			
Are Vegetation No., Soil No., or Hydrology No. natur	ally problematic? (If needed, e	xplain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map she	owing sampling point location	ns, transects, important features, etc.			
Hydrophytic Vegetation Present?         Yes         No           Hydric Soil Present?         Yes         No           Wetland Hydrology Present?         Yes         No	Is the Sampled Area within a Wetland?	Yes No			
Data taken within transmi	UB-CATMOD2	enfield.			
HYDROLOGY					
Wetland Hydrology Indicators:	14	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 Aq	uatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
	en Sulfide Odor (C1)	Drainage Patterns (B10)			
	Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)			
_ ` ' —	e of Reduced Iron (C4)	Dry-Season Water Table (C2)			
_ : : : : -	ron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)			
	ck Surface (C7)	Saturation Visible on Aerial Imagery (C9)			
	explain in Remarks)	Stunted or Stressed Plants (D1) Geomorphic Position (D2)			
Iron Deposits (B5)		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:					
	inches):				
Water Table Present? Yes No Depth (	inches):	<i>y</i>			
Saturation Present? Yes No Depth (		ydrology Present? Yes No			
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspections), if ava	ilable:			
Remarks: Hydrology not present.					

Sampling Point: upland

20/0	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 )	% Cover Species? Status	Number of Dominant Species
1. non		That Are OBL, FACW, or FAC:(A)
2		
		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
6		(100)
I .		Prevalence Index worksheet:
7	0	Total % Cover of: Multiply by:
	= Total Cover	
	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 )		FACW species x 2 =
1. hour		FAC species x 3 =
3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		FACU species x 4 =
2		
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7	N	1 - Rapid Test for Hydrophytic Vegetation
8		
9		2 - Dominance Test is >50%
9	_	3 - Prevalence Index is ≤3.0 <sup>1</sup>
	= Total Cover	4 - Morphological Adaptations (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5000)	Pertil 285 W	
1. Dadylis glomerata	30 V Fact	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
- C1. V a - (1 a a	30 1 Fact	
		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Tarataaum officinale		be present, unless disturbed or problematic.
4. Anthoxanthum adoration	30 Y Fact	Definitions of Four Vegetation Strata:
5		Definitions of Pour Vegetation Strata.
		Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of
7,		height.
8		
		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11,		Herb – All herbaceous (non-woody) plants, regardless
	OO = Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size: 30 )		Woody vine – All woody vines greater than 3.28 ft in
woody vine stratum (Plot size)		height.
1nml		
2		
3.		
4		
4		Hydrophytic
5		Vegetation   Present?   Yes   No
	= Total Cover	Present? Yes No
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate s		
	,	
Upland veg 15 domina		
Udand Ver 15 almina	VT.	
0		

	cription: (Describe	to the depth				or confirm	the abser	nce of indicate	ors.)	
Depth (inches)	Color (moist)	% _	Redo Color (moist)	x Features %	Type <sup>1</sup> _	Loc²	Texture	L	Remarks	
0-16	101/84/3	<u> </u>					<u>sl</u>			
¹Type: C=Ce	oncentration, D=De	pletion, RM=R	educed Matrix, M	S=Masked	Sand Gra	ains.		: PL=Pore Lini		
Histosol Histic Ep Black Hi Hydroge Stratified 2 cm Mu Depleted Thick Da Sandy M	(A1) bipedon (A2) stic (A3) on Sulfide (A4) d Layers (A5) lok (A10) (LRR N) d Below Dark Surfacerk Surface (A12) ducky Mineral (S1) (A 147, 148)		Dark Surface Polyvalue Be Thin Dark Su Loamy Gleye Depleted Ma Redox Dark Depleted Da Redox Depre Iron-Mangan	elow Surface urface (S9) ed Matrix (F trix (F3) Surface (F0 rk Surface essions (F8 ese Masse 6)	(MLRA 1 F2) 6) (F7) 8) es (F12) (I	47, 148) _RR N,	148)	(MLRA 13 _ Very Shallow _ Other (Expla	e Redox (A16) 47, 148) coodplain Soils 66, 147) v Dark Surfac in in Remarks	(F19) e (TF12) s)
Sandy R	Gleyed Matrix (S4) Redox (S5) Matrix (S6)		Umbric Surfa Piedmont Flo Red Parent II	odplain Sc	oils (F19)	(MLRA 14	l8)	Indicators of h wetland hydro unless disturb	logy must be	present,
	_ayer (if observed)	):								
	ches):		_				Hydric S	Soil Present?	Yes	No 🔨
Remarks:	ydric Soils	s not pr								
							s 4			

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region Project/Site: CYXXSVILE Philo City/County: MuskingumCo Sampling Date: 5/19/20

Applicant/Owner: AtP Sampling Point: wetland Investigator(s): KU Section, Township, Range: Landform (hillslope, terrace, etc.): Detvession Local relief (concave, convex, none): Concave Subregion (LRR or MLRA): LRRN Larg T91555 Long: -82016696 Soil Map Unit Name: WUDZ-West move land Guerrou Sit Journ 25-40 J. Store NWI classification: N/A (If no, explain in Remarks.) Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation  $\underline{NO}$ , Soil  $\underline{NO}$ , or Hydrology  $\underline{\underline{NO}}$  significantly disturbed? Are "Normal Circumstances" present? Yes \ Are Vegetation  $\underline{\Pi()}$ , Soil  $\underline{\Pi()}$ , or Hydrology  $\underline{\Pi()}$  naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Welland data for W009-PEM-CATMOD2 Remarks: Datutuken withintransmosion Live Row/ open field **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) \_\_\_ Surface Soil Cracks (B6) Primary Indicators (minimum of one is required; check all that apply) \_\_\_ Sparsely Vegetated Concave Surface (B8) Surface Water (A1) \_\_\_ True Aquatic Plants (B14) Drainage Patterns (B10) High Water Table (A2) Hydrogen Sulfide Odor (C1) \ Oxidized Rhizospheres on Living Roots (C3) \_\_\_ Moss Trim Lines (B16) Saturation (A3) Presence of Reduced Iron (C4) \_\_\_ Dry-Season Water Table (C2) Water Marks (B1) Recent Iron Reduction in Tilled Soils (C6) \_\_ Crayfish Burrows (C8) Sediment Deposits (B2) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) \_\_\_ Other (Explain in Remarks) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Geomorphic Position (D2) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Microtopographic Relief (D4) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Aquatic Fauna (B13) Field Observations: Surface Water Present? Water Table Present? Wetland Hydrology Present? Yes \_ / No Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology Indicators are AZ, A3, C3, DZ, DS.

50% of total cover: \_\_\_

50% of total cover:

50% of total cover:

50% of total cover:

Sapling/Shrub Stratum (Plot size: 5/

% Cover Species? Status

= Total Cover

= Total Cover

rach FUCL

20% of total cover:

Total Cover

\_\_ 20% of total cover:\_

= Total Cover

20% of total cover:

\_\_\_ 20% of total cover:\_

Tree Stratum (Plot size: 301

1. None

1. None

Herb Stratum (Plot size:

Sampling Point: wetland Absolute Dominant Indicator Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) 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) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup> \_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 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 vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Yes \_\_\_\_\_ No \_\_\_\_\_ Present?

Remarks:	(Include photo nu	imbers here or on a separate sheet,)	
,	Wetland	vez samment	4

Woody Vine Stratum (Plot size: 3010 )

Profile Des	cription: (Describe	e to the dep				or confirm	the absence	oringicate	ors.)	
Depth (inches)			Color (moist)	x Feature: %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
(inches)	Color (moist)	<u>%</u>		10	Type	D <sub>L</sub>			Remarks	
0-16	10412411	85	254R316	13		<u> </u>	<u>_SL_</u>			
99	20 10									
	-03		` —————							
k <del>s</del>						-				
12-	-				0.					
-	-	-:			·			-		
V=======		7).								
	7				·					
						-				
¹Type: C=C	Concentration, D=De	pletion, RM	=Reduced Matrix, Ma	S=Masked	Sand Gr	ains.			ng, M=Matrix.	
Hydric Soil	Indicators:						Indic	ators for Pi	oblematic Hy	dric Soils³:
Histoso	ol (A1)		Dark Surface	(S7)			2	cm Muck (	410) <b>(MLRA 1</b>	47)
	Epipedon (A2)		Polyvalue Be		ce (S8) (N	ILRA 147,	148) 0	Coast Prairie	Redox (A16)	
	listic (A3)		Thin Dark Su					(MLRA 14		
	en Sulfide (A4)		Loamy Gleye				F	Piedmont Flo	oodplain Soils	(F19)
	ed Layers (A5)		Depleted Ma	trix (F3)				(MLRA 13		
2 cm M	luck (A10) (LRR N)		Redox Dark	Surface (F	6)		_ \	ery Shallow	/ Dark Surface	(TF12)
Deplete	ed Below Dark Surfa	ce (A11)	Depleted Da	rk Surface	(F7)		c	Other (Expla	in in Remarks	)
Thick D	ark Surface (A12)		Redox Depre	essions (F	8)					
Sandy	Mucky Mineral (S1) (	(LRR N,	Iron-Mangan	ese Mass	es (F12) (	LRR N,				
MLR	A 147, 148)		MLRA 13	•						
Sandy	Gleyed Matrix (S4)		Umbric Surfa						ydrophytic v <b>e</b> g	
Sandy l	Redox (S5)		Piedmont Flo				•	-	logy must be p	
Strippe	d Matrix (S6)		Red Parent I	/laterial (F	21) (MLR	A 127, 147	') un	ıl <b>e</b> ss disturb	ed or problem	atic.
Restrictive	Layer (if observed)	):								
Туре:										
Depth (ir	nch <b>e</b> s):						Hydric Soil	l Present?	Yes	No
Remarks:										
	11 5									
V	Mects F3.					Ø.			\	
										54

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region Project/Site: Crooksville Philo \_\_\_\_\_ City/County: Muskingum Co.\_\_\_ Sampling Date: 5/19/20 Applicant/Owner: ATP Investigator(s): KUV Section, Township, Range:\_ Landform (hillslope, terrace, etc.): Since Local relief (concave, convex, none): \_\_\_\_\_\_ Subregion (LRR or MLRA): LRR N Lat: 39,791269 Soil Map Unit Name: BeF-Berks Channery St Hloam 25-35'1. S 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 ND, Soil ND, or Hydrology ND significantly disturbed? Are "Normal Circumstances" present? Yes 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 point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Upland data for W009-PEM-CATMOD2 Remarks: Datutaken within transmission Line 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) Sparsely Vegetated Concave Surface (B8) Surface Water (A1) True Aquatic Plants (B14) \_\_ Hydrogen Sulfide Odor (C1) \_\_ Drainage Patterns (B10) High Water Table (A2) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) \_\_\_ Moss Trim Lines (B16) \_\_\_ Water Marks (B1) \_\_\_ Dry-Season Water Table (C2) Presence of Reduced Iron (C4) \_\_\_ Recent Iron Reduction in Tilled Soils (C6) Sediment Deposits (B2) \_\_\_ Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Thin Muck Surface (C7) \_\_ 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) Microtopographic Relief (D4) Water-Stained Leaves (B9) Aquatic Fauna (B13) FAC-Neutral Test (D5) Field Observations: Yes \_\_\_\_ No \_\_\_ Depth (inches):\_\_\_\_ Surface Water Present? Yes \_\_\_\_\_ No V Depth (inches):\_\_\_\_\_ Water Table Present? 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: Remarks: Hydrology is not present.

Tree Stratum (Plot size: 30 V

none

Sampling Point: upland **Dominance Test worksheet:** Number of Dominant Species That Are OBL, FACW, or FAC:

2				Total Number of Dominant Species Across All Strata:  (B)
4		. —		Percent of Dominant Species
5			====	That Are OBL, FACW, or FAC: (A/B)
6		0	-	Prevalence index worksheet:
7	0	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover:				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: \5\)				FACW species x 2 =
1. Nove				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4.				Column Totals: (A) (B)
5:				
6		0/	6//	Prevalence Index = B/A =
7		s) <del></del>	×	Hydrophytic Vegetation Indicators:
8			··	1 - Rapid Test for Hydrophytic Vegetation
			×	2 - Dominance Test is >50%
9		= Total Cov	or	3 - Prevalence Index is ≤3.01
50% of total cover:				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
Herb Stratum (Plot size: 5		10121 00101		data in Remarks or on a separate sheet)
1. Anthoxanthum odoratum	20	V	Fact	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2 Diosdas tullonum	20		fact	
2 Setania Albeni	75	7	161	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4 Lamium puraireum	15	N	HILL	be present, unless disturbed or problematic.
5. Polystichum acrostichoides	18	N	Full)	Definitions of Four Vegetation Strata:
6. Barbared Vulgaris	10	-17	Fact	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Lar paren vingaris		171	IUCO	more in diameter at breast height (DBH), regardless of
7		·	· — —	height.
8		(G		Sapling/Shrub – Woody plants, excluding vines, less
9			// <u> </u>	than 3 in. DBH and greater than or equal to 3.28 ft (1
10	<del></del>	(i <del>-</del>	// <del>***********************************</del>	m) tall.
11,	1/97	X <del></del>	88 <del></del>	Herb - All herbaceous (non-woody) plants, regardless
		Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover:		Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ℃)				height.
1. noue			70 <del></del>	
2		-	o <del></del>	
3,			V=	
4				Hydrophytic
5	-			Vegetation
		Total Cov		Present? Yes No
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate sh	eet.)			
	)			
Upland veg 15 dominant	ŭ,			
Oper 1				

Absolute Dominant Indicator

<u>% Cover Species? Status</u>

Profile Description: (Describe to the depth			tor or confirm	n the absenc	e of indicators.)	
Depth Matrix (inches) Color (moist) %	Redox Color (moist)	Features Tyr	pe¹ Loc²	Texture	Remark	S
0-16 1018412 100	Galer (maiot)			81.		
One loghing too.					* <del>}</del>	(
				=		
<u> </u>					-	
1						
				2		
20						
2 <del></del>				-	3	
				<u> </u>	v: y-	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=F	Reduced Matrix, MS	Masked Sand	Grains.		PL=Pore Lining, M=Matr	
Hydric Soil Indicators:					cators for Problematic	
Histosol (A1)	Dark Surface ( Polyvalue Beld		O\ /MII DA 447		2 cm Muck (A10) <b>(MLRA</b> Coast Prairie Redox (A1	
Histic Epipedon (A2) Black Histic (A3)	Thin Dark Surf			, 140)	(MLRA 147, 148)	u)
Hydrogen Sulfide (A4)	Loamy Gleyed		.,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_	Piedmont Floodplain So	ils (F19)
Stratified Layers (A5)	Depleted Matr	ix (F3)			(MLRA 136, 147)	
2 cm Muck (A10) (LRR N)	Redox Dark S	` '			Very Shallow Dark Surfa	
Depleted Below Dark Surface (A11)	Depleted Dark			_	Other (Explain in Remar	Ks)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N,	Redox Depres Iron-Manganes		2) (LRR N.			
MLRA 147, 148)	MLRA 136)		-/ (			
Sandy Gleyed Matrix (S4)	Umbric Surfac		A 136, 122)	<sup>3</sup> ln	dicators of hydrophytic v	egetation and
Sandy Redox (S5)	Piedmont Floo			•	etland hydrology must b	
Stripped Matrix (S6)	Red Parent Ma	aterial (F21) (N	ILRA 127, 14	<b>7</b> ) u	nless disturbed or proble	ematic.
Restrictive Layer (if observed):						
Type:	<del></del>			Hudela Ca	il Present? Yes	No <u>\</u>
Depth (inches):				Hydric 30	ii Fresent: Tes	140 🗸
Remarks:	0					
Hydric Soils not	Weseut.					
,						
L -5						

WEILAND DETERMINATION DATA FORM	
Project/Site: Crossville Phili) City	County: MUSKINGUINCO. Sampling Date: 5/20/20
Applicant/Owner:	State: Off Sampling Point wetland
No. 1	tion, Township, Range:
	elief (concave, convex, none): CONCOUC Slope (%): O
Subregion (LRR or MLRA): LR N Lat: 39.784484	Long: 82.026663 Datum: NAD 83
	× 40-70'1-Slopes NWI classification: N/A
	7
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation $\underbrace{NO}_{AO}$ , Soil $\underbrace{NO}_{AO}$ , or Hydrology $\underbrace{NO}_{AO}$ significantly disti	
Are Vegetation $\underline{\mathcal{N}}$ , Soil $\underline{\mathcal{N}}$ , or Hydrology $\underline{\mathcal{N}}$ naturally problem	matic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Remarks: Wetland data for W010-PFO-CATE	2
Datutuken within firested area.	
Dally Coper I WILVIIM COPE STEEL STREET	
LIVEROLOCY	
HYDROLOGY	Consenders Indicators (minimum of two samules d)
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 O	· · · · · · · · · · · · · · · · · · ·
1 / 2 2	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
	ion in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	
Algal Mat or Crust (B4) Other (Explain in Re	
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)	AFAC-Neutral Test (D5)
Field Observations:	A 11
Surface Water Present? Yes No Depth (inches):	<u>\( \frac{\cup ''}{\cup '} \) \\ \( \text{1.5} \)</u>
Water Table Present? Yes No Depth (inches):	2
Saturation Present? Yes No Depth (inches):(	Wetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	revious inspections), if available:
Remarks: , , , , , , , , , , , , , , , , , , ,	
Hydrokgy Indicators are Al, AZ, A.	3,03,02,05
l l	
1	

201	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 3017 )  1. Umus americana	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC;(A)
2. Fraxmus pennsylvanica 3.	40 Y tacw	Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC:
6		That Are OBE, I ACW, OF I AC.
7		Prevalence Index worksheet:
13	80 = Total Cover	Total % Cover of:Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 57 )	20 % of total cover	FACW species x 2 =
1. Vium amerialise	3) V 500	FAC species x 3 =
		FACU species x 4 =
2. Fraxinus pennsylvanicu		
3		
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7,		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9	- X	3 - Prevalence Index is ≤3.0 <sup>1</sup>
	= Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	_	1 1 1
1. Impatiens oupensis	20 V Fach	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. Carex vulpiroidea	70 1 00	7.
1		¹Indicators of hydric soil and wetland hydrology must
3	119	be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of
7	1 ·	height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11,		Most All book assess (consumate) alanta assessible.
	= Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	Crossof and troody plants root than one riting
Woody Vine Stratum (Plot size: 30 ( )		Woody vine - All woody vines greater than 3.28 ft in
1. Nove		height.
<del></del>		
2		
3		
4	= <del></del>	Hydrophytic
5,	·	Vegetation Present? Yes No
	= Total Cover	Present? Yes No
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	
1 10 0	-	
Wettand veg is domino	w.	
1		

Profile Description: (Describe to the de			icator or confi	rm the absen	ce of indicators.)
Depth Matrix (inches) Color (moist) %	Color (moist)	x Features % 7	Type¹ Loc²	Texture	Remarks
(inches) Color (moist) % 0-16 1018411 85	2.548316	15	C PI	ddm	
010 104N-H 0	63/13/10	10		LOOTE	-:
: <del></del>	e <del>u</del>			-	<del>-</del> -
	a <del></del> .	-		-	=, -
					_
	-			= =====	
l	. ———	:		-	· ——————
	-			-	
1					
<sup>1</sup> Type: C=Concentration, D=Depletion, RN	I=Reduced Matrix, M	S=Masked Sa	and Grains.		PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:				Indi	icators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Dark Surface	, ,			2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)			(S8) (MLRA 14		Coast Prairie Redox (A16)
Black Histic (A3) Hydrogen Sulfide (A4)	Thin Dark St		ILRA 147, 148)		(MLRA 147, 148) Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Ma		1	_	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark			_	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Da	rk Surface (F	7)		Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depre				
Sandy Mucky Mineral (S1) (LRR N,			(F12) <b>(LRR N,</b>		
MLRA 147, 148)  Sandy Gleyed Matrix (S4)	MLRA 13	•	.RA 136, 122)	31,	ndicators of hydrophytic vegetation and
Sandy Redox (S5)			(F19) (MLRA		wetland hydrology must be present,
Stripped Matrix (S6)			(MLRA 127, 1		unless disturbed or problematic.
Restrictive Layer (if observed):					
Туре:					
Depth (inches):	<u></u>			Hydric Sc	oil Present? Yes No
Remarks:					
Meets F3.					
Y					

CO CO TO THE TAX	- Eastern Mountains and Pledmont Region
Project/Site: CYOOKSVIILE Philo City/0	County: MUSKINGUINCO Sampling Date: 5/20/20
Applicant/Owner: ACP	State: OH Sampling Point upland
V 1 x 1	ion, Township, Range:
	lief (concave, convex, none): CONVOX Slope (%): 101
Subregion (LRR or MLRA): LRRN Lat: 39, 784143	Long: -82,024652 Datum: NAD83
Soil Map Unit Name GACZ-GUERNSCY-Upshur Sitty Chaylo	
Are climatic / hydrologic conditions on the site typical for this time of year?	/
Are Vegetation ND, Soil ND, or Hydrology ND significantly distu	
10.	
Are Vegetation $\underline{\mathcal{N}()}$ , Soil $\underline{\mathcal{N}()}$ , or Hydrology $\underline{\mathcal{N}()}$ naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sar	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  Yes No	Is the Sampled Area within a Wetland? Yes No
Remarks: Upland data for W010-PFO-CAT2	
Data taken within transmission Liv	RAN
Data laken MUNIN (Kanzin 1220 CIN	
HYDROLOGY	William Perill Printers Visits Joseph Screen Prints & Collins of the
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 Oc	
<u> </u>	• —
	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (	· · · · · · · · · · · · · · · · · · ·
Algal Mat or Crust (B4) Other (Explain in Re	· ·
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):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pro	evious inspections), if available:
Remarks:	
Remarks.	
Hydrology Indicator not present	``\```````````````````````````````````
	±

Sampling Point: upland

300	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 50 )	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3		Total Number of Dominant Species Across All Strata: (B)
4, 5		Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/B)
6		
7		Prevalence Index worksheet:
	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 151)		FACW species x 2 =
1. NUL		FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8	V <del></del> V/	2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.01
	Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:	20 V 5011	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Andropogon virginicus 2. Trifilium Pratinge 3. Achilled mill Ctolium 4. Leucanthemum vulgaru 5.	30 Y Fact 20 Y Fact 20 Y Fact	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Four Vegetation Strata:  Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		more in diameter at breast height (DBH), regardless of height.
8		Sapling/Shrub - Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11,		,
	Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)	20% of total cover:	Woody vine – All woody vines greater than 3.28 ft in height.
1NWL		
2		
3		
4		Hydrophytic
5		Vegetation Present? Yes No
50% of total cover:	= Total Cover 20% of total cover:	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	heet.)	
Uplanelvez 15 dominant		

Depth Matrix	th needed to document the indicator or confi Redox Features	mi the absence of mulcators.)	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>		
0-16 104R413 100		SL	
0 14 10 11 10			
		- · · · · · · · · · · · · · · · · · · ·	
Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
lydric Soil Indicators:		Indicators for Problematic Hydric S	ioils <sup>3</sup> :
Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)	
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 14	7, 148) Coast Prairie Redox (A16)	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	) (MLRA 147, 148)	
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)	
_ Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)	
_ 2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)	2)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)	
_ Thick Dark Surface (A12)	Redox Depressions (F8)		
_ Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,		
MLRA 147, 148)	MLRA 136)		
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation	
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA		ıt,
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 1	47) unless disturbed or problematic.	
Restrictive Layer (if observed):			
Туре:			. /
Depth (inches):		Hydric Soil Present? Yes No	$\checkmark$
Remarks:	^		
11.10.5.1-1	aday at		
Hyanc John 1	10t proserut.		
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WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region Project/Site: CYNXSUILL Philo Applicant/Owner: A Investigator(s): KU Section, Township, Range: Local relief (concave, convex, none): Landform (hillslope, terrace, etc.): Deniession Subregion (LRR or MLRA): LAR Soil Map Unit Name: OKF-Berks Westmachande NWI classification: N/A Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ (If no, explain in Remarks.) Are Vegetation  $\underline{MD}$ , Soil  $\underline{MD}$ , or Hydrology  $\underline{MD}$  significantly disturbed? Are "Normal Circumstances" present? Yes \_\_\_\_\_\_ 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 point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Yes \ No Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Wetland data for W011-PEM-CATMOD2 Data taken within transmission Line ROW. **HYDROLOGY** Secondary Indicators (minimum of two required) Wetland Hydrology Indicators: Surface Soil Cracks (B6) Primary Indicators (minimum of one is required; check all that apply) \_\_\_ Sparsely Vegetated Concave Surface (B8) True Aquatic Plants (B14) Surface Water (A1) ✓ High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) \_\_\_ Dry-Season Water Table (C2) Presence of Reduced Iron (C4) Water Marks (B1) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Sediment Deposits (B2) \_\_\_ Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Thin Muck Surface (C7) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Other (Explain in Remarks) Geomorphic Position (D2) Iron Deposits (B5) \_\_ Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Microtopographic Relief (D4) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Aquatic Fauna (B13) Field Observations: Surface Water Present? Water Table Present? Wetland Hydrology Present? Yes Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks Hydrology Indicators are AZ, A3, C3, OZ, D5.

21/0	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 300	% Cover Species? Status	Number of Dominant Species
1. Nove		That Are OBL, FACW, or FAC: (A)
2.		
		Total Number of Dominant
3		Species Across All Strata: (B)
4		B
5		Percent of Dominant Species That Are OBL, FACW, or FAC:  (A/B)
22.4		That Are OBL, FACW, OF FAC (A/B)
6		Prevalence Index worksheet:
7,		
	= Total Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:		FACW species x 2 =
Saping/Shrub Stratum (Plot size. 1.71		
1. NSVC		FAC species x 3 =
2,		FACU species x 4 =
3		UPL species x 5 =
V		Column Totals: (A) (B)
4.		(A) (B)
5	· · · · · · · · · · · · · · · · · · ·	Prevalence Index = B/A =
6		
		Hydrophytic Vegetation Indicators:
7		1- Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9.		Commence of the Commence of th
5 cc.	= Total Cover	3 - Prevalence Index is ≤3.0 <sup>1</sup>
500/ -54-4-1		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1-10	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:	0.	
1. Phalaris arundinacea	30 V Fact	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. Impations raisensis	25 Y Facw	
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )		Indicators of hydric soil and wetland hydrology must
" CHANGE OF THE COURT	15 N Fuch	be present, unless disturbed or problematic.
4. Typha Xalaucu	190 7 001	Definitions of Four Vegetation Strata
5. Hubartonum pertoliatum	10 N Fach	Deminitions of Four Vegetation Strata.
		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
		more in diameter at breast height (DBH), regardless of
7		height.
8		
		Sapling/Shrub - Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11		Herb – All herbaceous (non-woody) plants, regardless
	OO = Total Cover	of size, and woody plants less than 3.28 ft tall.
E00/ of total		or size, and woody plants less than 5.20 ft tall.
50% of total cover:	20% of total cover:	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30')		height.
1. Noul		
2		
20 <sup>1</sup>		
3	:	
4		Hydrophytia
5.		Hydrophytic Vegetation
		Present? Yes \ No
	= Total Cover	100 100 100 100 100 100 100 100 100 100
50% of total cover:		
Remarks: (Include photo numbers here or on a separate s	heet.)	**
, A	^	
Wetland veg is domi	1	
WHO WE ARE IS DONNI	vaul :	
V	5 5	

Profile Description: (Describe to the dep	th needed to document the indicator or confirm	the absence of indicators.)
Depth <u>Matrix</u>	Redox Features	
(inches) Color (moist) %	Color (moist) % Type Loc²	Texture Remarks
0-16 104K411 80	DAKAIR 12 C KAIM	laum
) =		
<u> </u>		<del></del>
		7
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=	=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:	50	Indicators for Problematic Hydric Soils <sup>3</sup> :
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)
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Joamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Gleyed Matrix (34)	Piedmont Floodplain Soils (F19) (MLRA 148	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147)	
Restrictive Layer (if observed):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
	)	
Meets F?	<b>フ</b> 。	
		×
18:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region Project/Site: Crabsulle Philo Sampling Point upland Applicant/Owner: Investigator(s): Section, Township, Range Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): \_\_\_\_\_\_\_\_ Subregion (LRR or MLRA): LRKN Soil Map Unit Name: BKE-Berks & Jestmore land con NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_ (If no, explain in Remarks.) Are Vegetation NO . Soil NO . or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes 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 point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: ) pland data for W011-PEM-CATMOD2 Datataken within transmission Line ROW. **HYDROLOGY** Secondary Indicators (minimum of two required) Wetland Hydrology Indicators: Surface Soil Cracks (B6) Primary Indicators (minimum of one is required; check all that apply) Sparsely Vegetated Concave Surface (B8) True Aquatic Plants (B14) Surface Water (A1) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) High Water Table (A2) Oxidized Rhizospheres on Living Roots (C3) \_\_\_ Moss Trim Lines (B16) Saturation (A3) \_\_\_ Dry-Season Water Table (C2) Presence of Reduced Iron (C4) Water Marks (B1) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Sediment Deposits (B2) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Drift Deposits (B3) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) \_\_\_ Geomorphic Position (D2) Iron Deposits (B5) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Microtopographic Relief (D4) Water-Stained Leaves (B9) \_\_\_ FAC-Neutral Test (D5) Aquatic Fauna (B13) Field Observations: Yes \_\_\_\_\_No \_\_\_\_ Depth (inches):\_ Surface Water Present? Yes No Depth (inches): Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_ \_\_ No \_\_\_ Depth (inches): Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology not present.

## **VEGETATION** (Four Strata) – Use scientific names of plants.

Sampling Point: upland

2010	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30'\( \cdot \)	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2	·	Total Number of Dominant Species Across All Strata:  (B)
4.		Species Acioss Ali Stiata.
5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
2 400 C 100	= Total Cover	OBL species x 1 =
	20% of total cover:	
Sapling/Shrub Stratum (Plot size: 15)		FACW species x 2 =
1NOVQ		FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0¹
	= Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
[	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:	IN N FIL	Problematic Hydrophytic Vegetation¹ (Explain)
1. Andropason Virginiaus 2. Dactylis alimerata 3. Trifolium Draters C	30 N Fact	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Dancus carota		be present, unless disturbed or problematic.
		Definitions of Four Vegetation Strata:
5. Pantago lanceolatu	20 Y Fact	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6 7		more in diameter at breast height (DBH), regardless of height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10	· · · · · · · · · · · · · · · · · · ·	m) tall.
11	= Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size:		Woody vine – All woody vines greater than 3.28 ft in height.
1. Nove		Troughti
2.		
3.		
4.		
5.		Hydrophytic Vegetation
	= Total Cover	Present? Yes No
50% of total cover:		
Remarks: (Include photo numbers here or on a separate		
		•
Upland veg 15 dor	ninau	
N. C.		

Profile Description: (Describe to the depth r		m the absence	of indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features  Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
1/	Color (moist) % Type¹ Loc²	- Texture	- Nemarks
0-10 10/18413 100 -			Contraction and and
104K416 40 _			co-matrix color
3 151			
F			
			·
			=======================================
		· <del></del>	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Re	educed Matrix, MS=Masked Sand Grains.		L=Pore Lining, M=Matrix.
Hydric Soil Indicators:			ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147		Coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	<u> </u>	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)  Redox Dark Surface (F6)	,	(MLRA 136, 147) /ery Shallow Dark Surface (TF12)
2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	_ `	Salor (Explain III romanie)
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,		
MLRA 147, 148)	MLRA 136)		
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Inc	dicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 1		etland hydrology must be present,
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 14	<b>47</b> ) un	lless disturbed or problematic.
Restrictive Layer (if observed):			
Туре:	_		/
Depth (inches):		Hydric Soi	I Present? Yes No
Remarks: Hydric Soils n	12/25		
Hidric Soil n	of presuce.		
1000	_ /š		
			2*

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region \_\_\_\_\_ City/County: Muskingum(0. Sampling Date: 5/20/20 Project/Site: CYOOKSVILLE Philo Applicant/Owner: Investigator(s): Landform (hillslope, terrace, etc.): Deblession \_\_\_ Local relief (concave, convex, none): CMCWC Subregion (LRR or MLRA): LAK N NWI classification: NA (If no, explain in Remarks.) Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation  $\mathcal{M}\mathcal{D}$ , Soil  $\mathcal{M}\mathcal{D}$ , or Hydrology  $\mathcal{M}\mathcal{D}$  significantly disturbed? Are "Normal Circumstances" present? Yes Are Vegetation  $\underline{\mathcal{N}}$ , Soil  $\underline{\mathcal{N}}$ , or Hydrology  $\underline{\mathcal{N}}$  naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Wetland data for W012-PEM-CATMOD2 Data taken within transmission Line 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) Sparsely Vegetated Concave Surface (B8) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) \_\_ Drainage Patterns (B10) ✓ Saturation (A3) ✓ Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) \_\_\_ Dry-Season Water Table (C2) Water Marks (B1) Presence of Reduced Iron (C4) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) \_\_\_ Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Thin Muck Surface (C7) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Geomorphic Position (D2) Iron Deposits (B5) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Microtopographic Relief (D4) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Aquatic Fauna (B13) Field Observations: Surface Water Present? Water Table Present? Wetland Hydrology Present? Yes \_\_\_\_\_ No\_ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology Indicators eve AZ, AB, C3, DZ, DS.

## **VEGETATION** (Four Strata) – Use scientific names of plants.

## Sampling Point: wetland

2010		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30'\( \)		Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: (B)
5		-		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6		$\overline{}$	-	Prevalence Index worksheet:
7		n	p <del></del>	Total % Cover of: Multiply by:
000000000000000000000000000000000000000		=Total Cov		
50% of total cover:	20% of	total cover:		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 150)				FACW species x 2 =
1. hore				FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5			-	Prevalence Index = B/A =
			-	Hydrophytic Vegetation Indicators:
7 8				
Land				2 - Dominance Test is >50%
9	$\overline{}$	_		3 - Prevalence Index is ≤3.0¹
F00/ 5		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
, 50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: DY )	21	<b>^</b> /	Tul.	Problematic Hydrophytic Vegetation¹ (Explain)
1. Juncus ettusus,	36	7	tady	
2. Carex vulpinoided	20	4	061	1 1 Indicators of budging will and watered budgets and some
3. Impatiens capensis	_30_	4	Fach	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Onocled Sensibilis.	$\bot 0$	N	Face	Definitions of Four Vegetation Strata:
5. Diehanthelium clandestinun	110	N	Fac	Definitions of Four Vegetation Strata.
6			100	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
		-		more in diameter at breast height (DBH), regardless of
7			-	height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9		-	-	than 3 in. DBH and greater than or equal to 3.28 ft (1
10		-		m) tall.
11	100	Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:		total cover:	31	or ores, and weedy plante less than ones within
Woody Vine Stratum (Plot size: 30 (C)		.5.2. 00701.		Woody vine - All woody vines greater than 3.28 ft in
1. NOR				height.
		-		
2			-	
3				
4				Hydrophytic
5				Vegetation /
	_(_)_=	Total Cove	er	Present? Yes No
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate st				

	cription: (Describe	to the dep				or confirm	the absence o	findicate	ors.)	
Depth (inches)	Color (moist)	0/2	Color (moist)	x Feature %	s Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
O-\Q	10121112	<u> 2</u>	25V122V	15	C	PL	SI		rtomanto	
OIG	TOADAK	= (0)	CHIMA			10				
-					s(			_		
-		5)				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
=	10	-			<u> </u>					
	-									
					i:					
:	=======================================				X=====					
-										
	-						-	_		
	Concentration, D=Dep	pletion, RM	=Reduced Matrix, M	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=	Pore Lin	ing, M=Matrix.	
	Indicators:								roblematic Hy	
Histoso	• •		Dark Surface						A10) (MLRA 14	47)
	pipedon (A2)		Polyvalue Be				. —		e Redox (A16)	
	listic (A3)		Thin Dark Su Loamy Gleye			47, 148)		MLRA 14	oodplain Soils (	(F19)
	en Sulfide (A4) d Layers (A5)		Depleted Ma		F2)			MLRA 13		(119)
	uck (A10) (LRR N)		Redox Dark		6)				v Dark Surface	(TF12)
	d Below Dark Surfac	ce (A11)	Depleted Da	-	-				in in Remarks)	
	ark Surface (A12)	,	Redox Depre					` '		
	Mucky Mineral (S1) (	LRR N,	Iron-Mangan			LRR N,				
MLR	A 147, 148)		MLRA 13	6)						
Sandy	Gleyed Matrix (S4)		Umbric Surfa						ydrophytic veg	
	Redox (S5)		Piedmont Flo						ology must be p	
	d Matrix (S6)		Red Parent N	/laterial (F	21) <b>(MLR</b>	A 127, 147	') unle	ss disturt	ed or problema	atic.
Restrictive	Layer (if observed)	:								
Туре:										
Depth (ir	nches):						Hydric Soil P	resent?	Yes	No
Remarks:										
	Mects	12								
	Mecto	トン.								
	•									

WETLAND DETERMINATION DATA FORM	The second secon
Project/Site: Crooksville Philo city/C	County: MUSKINGUMCO . Sampling Date: 5/20/20
Applicant/Owner: AEP	State: Sampling Point wetland
12 8 6 7	on, Township, Range:
	ief (concave, convex, none): CONCOVE Slope (%): 0 /
Subregion (LRR or MLRA): LBN Lat: 39, 775234	Long: -32.038189 Datum: NAD 83
Soil Map Unit Name: BKF-Berks Westnered and Comple	X 40-701.SloveS NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Y	/es No (If no, explain in Remarks.)
Are Vegetation $\underline{\mathcal{MD}}$ , Soil $\underline{\mathcal{MO}}$ , or Hydrology $\underline{\mathcal{MO}}$ significantly distur	
Are Vegetation $\underline{\underline{N0}}$ , Soil $\underline{\underline{N0}}$ , or Hydrology $\underline{\underline{N0}}$ naturally problems	
_	npling point locations, transects, important features, etc.
SUMMINANT OF FINDINGS - Attach site map showing same	ipining point rocations, transcote, important rectains, site
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  No	Is the Sampled Area within a Wetland? Yes No
Remarks: Wettand data for W013-PEM-CA	ATMOD2
Wettang data the word zim of	(TWODE
Data taken within transmission U	ine 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 Od	lor (C1) Drainage Patterns (B10)
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	d Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2)  Recent Iron Reduction	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (0	C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Rel	marks)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):	<u>0"</u>
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	na M 05
Hydrology Indicators are AZ, A3,	25,02,03
T. C.	

/EGETATION (Four Strata) – Use scientific n	ames of	plants.	Sampling Point: wetland
Tree Stratum (Plot size: 30 \( \cdot \)  1. \( \cdot \)	% Cover	Dominant Indicator Species? Status	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3			Total Number of Dominant Species Across All Strata:  (B)
456			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7			Prevalence Index worksheet:
		= Total Cover	Total % Cover of: Multiply by:
50% of total cover:			OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 57			FACW species x 2 =
1. Nove			FAC species x 3 =
2			FACU species x 4 =
3			UPL species x 5 =
4			Column Totals: (A) (B)
			*
5			Prevalence Index = B/A =
6			Hydrophytic Vegetation Indicators:
7			1, - Rapid Test for Hydrophytic Vegetation
8	-		2 - Dominance Test is >50%
9	-		3 - Prevalence Index is ≤3.0 <sup>1</sup>
		= Total Cover	4 - Morphological Adaptations (Provide supporting
50% of total cover:	20% of	total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	20		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Phalarb drundinacea 2. Juncus effusus	10	- Fach	Indicators of hydric soil and wetland hydrology must
3. Impateins capinsis	10_	y tau	be present, unless disturbed or problematic.
4. Elipatanium perfoliation	10	Y Fac	Definitions of Four Vegetation Strata:
5. Onboled Sensibilis	15	y Fad	()
s. Kersicana sagittatum	15	y 061	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
, Agrimma parviflend	10	V Fach	more in diameter at breast height (DBH), regardless of height.
8. Barbared Vulgaris	10	Faci	Tolgita
	_1\/_	7 1000	Sapling/Shrub – Woody plants, excluding vines, less
9			than 3 in, DBH and greater than or equal to 3.28 ft (1 m) tall.
50% of total cover:		Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)	20 /0 01	total cover.	Woody vine – All woody vines greater than 3.28 ft in
1. NOVE			height.
2.			
./			•
3		·——·	
4		·	Hydrophytic
ō			Vegetation Present? Yes \ No
		Total Cover	Present? res No
50% of total cover:		total cover:	
Remarks: (Include photo numbers here or on a separate s	•	₹ .	

Profile Desc	ription: (Describe	to the dep	oth needed to docun			or confirm	n the absence	of indicators.)	
Depth	Matrix			<u> Feature</u>		. 2	C=1000101000	Promouto	
(inches)	Color (moist)	_ %	Color (moist)	%	Type <sup>1</sup>	Loc2	Texture	Remarks	<del></del>
0-8	104K412	100	3	-			-JC-		
8-10	311	90	25/183/6	10	C	M	loum	Φ.	
								<del></del>	
	· <del></del>		-	-	-				
						. —			
	3				-				
-					: 1				
i=	·						=		
	·· <del>·</del>	75							
							-		
	Ü-				-				
		pletion, RM	=Reduced Matrix, MS	=Masked	Sand G	rains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.	3
Hydric Soil	Indicators:							ators for Problematic Hyd	
Histosol	(A1)		Dark Surface	(S7)				cm Muck (A10) (MLRA 147	"
Histic E <sub>l</sub>	oipedon (A2)		Polyvalue Be				, <b>148)</b> C	oast Prairie Redox (A16)	
Black Hi	stic (A3)		Thin Dark Su			147, 148)		(MLRA 147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye		(F2)		P	iedmont Floodplain Soils (F	19)
Stratified	d Layers (A5)		Depleted Mat					(MLRA 136, 147)	
	ıck (A10) <b>(LRR N)</b>		Redox Dark S					ery Shallow Dark Surface (	ΓF12)
	d Below Dark Surfac	ce (A11)	Depleted Dar				_ 0	ther (Explain in Remarks)	
	ark Surface (A12)		Redox Depre						
	lucky Mineral (S1) (	LRR N,	Iron-Mangane		es (F12)	(LRR N,			
	<b>A 147, 148)</b>		MLRA 130	•	(no. m. 4.		31	:	_tien and
	Gleyed Matrix (S4)		Umbric Surfa					icators of hydrophytic veget	
	Redox (S5)		Piedmont Flo				•	tland hydrology must be pre	
	Matrix (S6)		Red Parent M	iateriai (F	21) (MLF	CA 127, 14	/) un	less disturbed or problemati	C.
	La <b>yer (if observed)</b>	):					1		
Туре:								. /	
Depth (in	ches):						Hydric Soil	Present? Yes	No
Remarks:									
	Meet	5 F7							
	1-1600	) (							
ľ									

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region Project/Site: CYOOKSVIILE. Philo Applicant/Owner: ATT \_ Sampling Point: upland Investigator(s): Section, Township, Range:\_ Landform (hillslope, terrace, etc.); Flat Local relief (concave, convex, none): \(\sum{\lambda}\leftarrow\le Subregion (LRR or MLRA): LRRN Soil Map Unit Name: \m() - \bstacte NWI classification: NA Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ (If no, explain in Remarks.) Are Vegetation MO, Soil MO, or Hydrology MO significantly disturbed? Are "Normal Circumstances" present? Yes \( \scalebox Are Vegetation  $\underline{\hat{n}\hat{0}}$ , Soil  $\underline{\hat{n}\hat{0}}$ , or Hydrology  $\underline{\hat{n}\hat{0}}$  naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: Upland data for W012 & W013 Data taken within transmission Line 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) Sparsely Vegetated Concave Surface (B8) Surface Water (A1) \_\_ True Aquatic Plants (B14) \_\_\_ Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) \_ High Water Table (A2) \_\_ Oxidized Rhizospheres on Living Roots (C3) \_\_\_ Moss Trim Lines (B16) Saturation (A3) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Water Marks (B1) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Cravfish 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) Microtopographic Relief (D4) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Aquatic Fauna (B13) Field Observations: Yes \_\_\_\_\_ No \_\_\_ Depth (inches):\_ Surface Water Present? Yes \_\_\_\_ No \_\_\_ Depth (inches):\_\_\_\_ Water Table Present? Yes \_\_\_\_ No V Depth (inches): Saturation Present? Wetland Hydrology Present? Yes \_\_\_\_ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology not present.

## **VEGETATION** (Four Strata) – Use scientific names of plants.

Sampling Point;upland

200	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30'\( \)  1. \( \) \( \) \( \) \( \) \( \)	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3		Total Number of Dominant Species Across All Strata:
5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
		Prevalence Index worksheet:
7	·	Total % Cover of:Multiply by:
	= Total Cover	OBL species x 1 =
	20% of total cover:	
Sapling/Shrub Stratum (Plot size:		FACW species x 2 =
1. NOVL		FAC species x 3 =
2		FACU species x 4 =
3		UPL species x 5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A =
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9	7	3 - Prevalence Index is ≤3.0¹
	= Total Cover	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:	05	Problematic Hydrophytic Vegetation¹ (Explain)
1. Dactylisalimerata	_30 \ Lacu	Problematic Hydrophytic Vegetation (Explain)
2. Achillea milletolium	20 V Fac	)
3. Cirsium arverse	20 V FacU	'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Barbared Vulgaris	TS Y Fact	
5. Verbascum thapsus	15 V Fac	Definitions of Four Vegetation Strata:
6		Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
\$	· · · · · · · · · · · · · · · · · · ·	more in diameter at breast height (DBH), regardless of
7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11,	100	Herb – All herbaceous (non-woody) plants, regardless
	= Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 )		height.
1. NOVE	2000	
2		
3	1	
4		Hydrophytic
5.		Hydrophytic Vegetation
	= Total Cover	Present? Yes No
50% of total cover:		
Remarks: (Include photo numbers here or on a separate		
Upland veg is domina		
,	-	

σ.		8.7	- 4	r
F.	- /-	τ.	-	
	- 3	3		

Profile Descri	iption: (Describe Matrix	to the depth		nent the i x Feature:		or contirm	tne abse	nce of indicat	(ors.)	
(inches)	Color (moist)	%		% reature:		Loc <sup>2</sup>	<u>Texture</u>	e	Remarks	
1.1	104R413	100					SL			
							-			-
							-			
					.——					
		-			×					
					1====	-		_		
					<i></i>					
	ncentration, D=Dep	oletion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lir		
Hydric Soil In				(07)				dicators for F		=
Histosol (/	,		Dark Surface Polyvalue Be		aa (CO) <b>(N</b>	II DA 447	_	_ 2 cm Muck _ Coast Prairi		•
Black Hist	pedon (A2)		Thin Dark Su				140) _	_ COBST TAIN		,
_	Sulfide (A4)		Loamy Gleye			-11, 110,	_	_ Piedmont F	. ,	s (F19)
Stratified I			Depleted Ma		•			(MLRA 1	36, 147)	
2 cm Muc	k (A10) (LRR N)		Redox Dark	•			_		w Dark Surfac	
	Below Dark Surfac	ce (A11)	Depleted Date				_	_ Other (Expl	ain in Remark	s)
	k Surface (A12)	I DD N	Redox Depre			I DD N				
	icky Mineral (S1) <b>(</b> <b>147, 148)</b>	LKK N,	MLRA 13		es (F12) (	LKK N,				
	eyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)		3Indicators of I	hydrophytic ve	getation and
Sandy Re			Piedmont Flo						ology must be	
	Matrix (S6)		Red Parent N	/laterial (F	21) <b>(MLR</b>	A 127, 147	")	unless distur	bed or problen	natic.
Restrictive La	yer (if observed)	:								
Туре:			_							
Depth (inch	nes):		<u></u>				Hydric	Soil Present?	Yes	No
Remarks:										
	11 1	1-10-	t presen	-()						
	Hydric 3	obits inc	T PRESEN	<i>X</i> .						
					2					
				31						

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



hio Constitution Agency	Primary He	eadwater Ha		aluation Form sum of metrics 1+2+3)	(IZ
NOTE: Complete All	RIVER BASIN CORER CORER CONTROL REACH (#1) SCORER CONTROL REMISSION THIS FORTH	_	SO01  Sound	DRAINAGE AREA (MIF)  1844 ST RIVER MILE  Dhio's PHWH Streams" for  RECOVERING RECENT O	Instructions
(Max of 32). A TYPE  BLDR SLA BOULDER BEDROCK COBBLE ( GRAVEL ( SAND (<2 Total of Pe	dd total number of signifi PE BS [16 pts] (>256 mm) [16 pts]	cant substrate types for RCENT TYPE	SILT [3 pt] LEAF PACK/WOODY FINE DETRITUS [3 pt CLAY or HARDPAN [0 MUCK [0 pts] ARTIFICIAL [3 pts]	ts]	HHEI Metric Points Substrate Max = 40
	ion. Ávoid plunge pools : 's [20 pts] [30 pts]		torm water pipes) (Ch 5 cm - 10 cm [15 pts < 5 cm [5pts] NO WATER OR MOIS	O feet) evaluation reach at the leck ONLY one box).  ST CHANNEL [Opts]  OL DEPTH (centimeters):	Pool Depth Max = 30
> 4.0 meters (> > 3.0 m - 4.0 m	,	eaverage of 3 - 4 me	asurements) (Check ] > 1.0 m - 1.5 m (> 3': ] ≤ 1.0 m (≤ 3' 3")[5 pt	3" -4" 8")[15 pts]	Bankfull Width Max=30
COMMENTS			AVERAGE BAN	KFULL WIDTH (meters) ${\cal B}$	
RIPAR	AN ZONE AND FLOOD!		n <u>mustalso be complet</u> NOTE: River Left (L) and	ed Right (R) as looking downstrea	m*
L R (P	RIAN WIDTH er Bank) e >10m erate 5-10m ow <5m e	L R Mature Fo	rest, Wetland Forest, Shrub or Old Field I, Park, New Field Isture	L R Conservation Tillage	Crop
Stream Subsurf	ace flow with isolated por NTS	ols (interstitial)	Moist Channe Dry channel, r	I, isolated pools, no flow (intern no water (ephemeral)	ittent)
None 0 5	DIENT ESTIMATE	per 61 m (200 π) of ch 1.0 1.5	annell (Check ONLY on 2.0 2.5	9 00X)	
Flat 05 1 100 1	Flat to Moderate	☐ Moderate 12 th∞	↑ Moderate to	Severe Severe	0 1100 1
October 2013 Revision			Page 1		

QHEI PERFORMED? Yes No QHEI Score (If Yes. Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(\$)	
WWWH Name: ByuSh Cyell Distance from Evaluated Stream	
CWH Name: Distance from Evaluated Stream	
☐ EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK, THE SITE LOCATION.	
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order: NRCS Soil Map St	
county: Muskingun Co. Township/City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N). Date of last precipitation: 5/14/20 Quantity: 4.25"	
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results):	
Field Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
is the sampling reach representative of the stream (Y/N) If not, explain:	
1	
Additional comments/description of pollution impacts	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
0.1	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	1
openfield (own	>
Operico	1
	à
ELOW	
panwellaw	K
tal)	÷



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

SITE NAME/LOCATION(\\'\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	PDITO	
OITE NUMBER	DIVED BASIN FOU COO 4050 \ DRAINAGE AREA (mi2)	-Bami
LENGTH OF STREAM REACH (ft)	LAT 39, 80527 ONG 81.986 40 RIVER CODE RIVER MILE	
DATE 5 18 20 SCORER KLV	COMMENTS S002	
	n - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Ins	tructions
STREAM CHANNEL SHONE / NAT	TURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	COVERY
MODIFICATIONS:		
	ry type of substrate present. Check ONLY two predominant substrate TYPE boxes ant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEL
	ERCENT TYPE PERCENT	Metric   Points
☐ ☐ BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	>2-U SILT [3 pt]	1
BEDROCK [16 pt]	FINE DETRITUS [3 pts]	Substrate Max = 40
☐ ☐ COBBLE (65-256 mm) [12 pts] ☐ ☐ GRAVEL (2-64 mm) [9 pts]	CLAY or HARDPAN [0 pt]	12
SAND (<2 mm) [6 pts]	30 ARTIFICIAL [3 pts]	
Total of Percentages of	(A) (B)	A + B
Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBST	TRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
(		
	aximum pool depth within the 61 meter (200 ft) evaluation reach at the time of I culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15 pts]  < 5 cm [5 pts]	15
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0 pts]	
COMMENTS	MAXIMUM BOOL BERTH (souther stars).	100
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
BANK FULL WIDTH (Measured as the a	average of 3-4 measurements) (Check ONLY one box):	Bankfull
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankfull Width Max=30
3. BANK FULL WIDTH (Measured as the a	average of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the a > 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]	average of 3-4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
3. BANK FULL WIDTH (Measured as the a > 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]	average of 3-4 measurements) (Check ONLY one box):    > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]    \( \sum_{\text{\colored}} \) \( \sum_{\text{\colored}} \) (5 pts]	Width
3. BANK FULL WIDTH (Measured as the a > 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	average of 3-4 measurements) (Check ONLY one box):    > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]   \( \leq \) 1.0 m (\( \leq \) 3' 3") [5 pts]    AVERAGE BANKFULL WIDTH (meters)	Width
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements) (Check ONLY one box):    Solution   Solution   Solution   Solution	Width
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	This information must also be completed  LAIN QUALITY  A Most Predominant per Bank)  R (Most Predominant per Bank)  Mature Forest, Wetland  Immature Forest, Shrub or Old  Check ONLY one box):  (Check ONLY one box):  (A B Check ONLY one box):  (B Check ONLY one box):  (A B Check ONLY one box	Width
3. BANK FULL WIDTH (Measured as the a > 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  RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m	AVERAGE BANKFULL WIDTH (meters)  This information must also be completed  LAIN QUALITY  ANOTE: River Left (L) and Right (R) as looking downstream  FLOODPLAIN QUALITY  L R (Most Predominant per Bank)  Mature Forest, Wetland  Mature Forest, Wetland  Immature Forest, Shrub or Old  Field  Conservation Tillage  Urban or Industrial  Conservation Provided  Conservation Tillage	Width
3. BANK FULL WIDTH (Measured as the a > 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	This information must also be completed  LAIN QUALITY  ANOTE: River Left (L) and Right (R) as looking downstream  FLOODPLAIN QUALITY  Residential, Park, New Field  Check ONLY one box):  AVERAGE BANKFULL WIDTH (meters)  AVERAGE BANKFULL WIDTH (meters)  L R  Conservation Tillage  Urban or Industrial  Open Pasture, Row Crop	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 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  RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m  Narrow <5m	This information must also be completed  LAIN QUALITY	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 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  RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH  (Per Bank) Wide > 10m  Moderate 5-10m  Narrow < 5m  None COMMENTS  FLOW REGIME (At Time of Evaluation of Evaluati	Average of 3-4 measurements) (Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 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  RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH  (Per Bank) Wide > 10m  Moderate 5-10m  Narrow <5m  None COMMENTS	This information must also be completed  LAIN QUALITY  ANOTE: River Left (L) and Right (R) as looking downstream  FLOODPLAIN QUALITY  L R (Most Predominant per Bank)    Mature Forest, Wetland   Conservation Tiliage   Immature Forest, Shrub or Old   Urban or Industrial     Residential, Park, New Field   Open Pasture, Row Crop   Fenced Pasture   Mining or Construction     Moist Channel, isolated pools, no flow (Intermittential)	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 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  RIPARIAN ZONE AND FLOODPR RIPARIAN WIDTH (Per Bank) Wide > 10 m  Moderate 5-10 m  Narrow < 5 m  None COMMENTS  FLOW REGIME (At Time of Evaluation of Evaluatio	This information must also be completed  LAIN QUALITY  ANOTE: River Left (L) and Right (R) as looking downstream  FLOODPLAIN QUALITY  L R (Most Predominant per Bank)    Mature Forest, Wetland   Conservation Tiliage   Immature Forest, Shrub or Old   Urban or Industrial     Residential, Park, New Field   Open Pasture, Row Crop   Fenced Pasture   Mining or Construction     Moist Channel, isolated pools, no flow (Intermittential)	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	This information must also be completed  LAIN QUALITY  ANOTE: River Left (L) and Right (R) as looking downstream from Mature Forest, Wetland    Mature Forest, Wetland   Conservation Tillage Immature Forest, Shrub or Old   Urban or Industrial	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	This information must also be completed  LAIN QUALITY  ANOTE: River Left (L) and Right (R) as looking downstream from Mature Forest, Wetland    Mature Forest, Wetland   Conservation Tillage   Immature Forest, Shrub or Old   Urban or Industrial	Width Max=30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	This Information must also be completed  LAIN QUALITY	Width Max=30

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Tyes No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)  Distance from Evaluated Stream
Distance from Evaluated Stream     Distance from Evaluated Stream
Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
county: Muskingum Co Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: 5 18 20 Quantity: 4 50
Photograph Information:
Elevated Turbidity? (Y/N): N Canopy (% open): 100 /
Were samples collected for water chemistry? (Y/N): Note lab sample no, or id, and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Trunsmission und Robert Roberts and Roberts Rober
PEM Wetland
FLOW W
Road
, ,

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

SITE NAME/LOCATION CYOOKS VIII Philo	
SITE NUMBER DIVER BASIN TO WOOD DRAINAGE AREA (mi <sup>2</sup> )	Symi
LENGTH OF STREAM REACH (ft) LATE BOOK SLONG 8 988 18 RIVER CODE RIVER MILE COMMENTS \$003	
DATE 5 18 20 SCORER COMMENTS S003  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Insti	
STREAM CHANNEL MONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	OVERY
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEI
TYPE PERCENT TYPE PERCENT	Metric Points
BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts]	
☐ ☐ BEDROCK [16 pt] ☐ ☐ FINE DETRITUS [3 pts] ☐ ☐ CLAY or HARDPAN [0 pt]	Substrate Max = 40
GRAVEL (2-64 mm) [9 pts] 35	117
SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	L L
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  (A) (7)	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	Max = 30
□ > 22.5 - 30 cm [30 pts]       ✓ 5 cm [5 pts]         □ > 10 - 22.5 cm [25 pts]       □ NO WATER OR MOIST CHANNEL [0 pts]	5
COMMENTS MAXIMUM POOL DEPTH (centimeters):	(Francisco)
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
3.0 m = 4.0 m (> 9' 7" = 13") [25 pts]       > 1.0 m = 1.5 m (> 3' 3" = 4' 8") [15 pts]         > 3.0 m = 4.0 m (> 9' 7" = 13") [25 pts]       ≤ 1.0 m (≤ 3' 3") [5 pts]	Width Max=30
□ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	5
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Most Predominant per Bank) L R	
✓ Wide >10m	
Field Onen Pasture Row	
□ Narrow <5m □ Residential, Park, New Field □ Crop □ None □ Fenced Pasture □ Mining or Construction	
COMMENTS	•
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing  Subsurface flow with isolated pools (Interstitial)  Moist Channel, isolated pools, no flow (Intermittent)  Dry channel, no water (Ephemeral)	
COMMENTS	,
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0	
□ 0.5 □ 2.5 □ >3	

QHEI PERFORMED? - TYes	No QHEI Score(If Yes, Attach Cor	mpleted QHEI Form)
DOWNSTREAM DESIGNATED U	SE(S)	
** WWH Name:	Dist	tance from Evaluated Stream
	Dist	
	APS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA.	
	NRCS Soil Map Page:_	
County: MUSKINGUM	Township / City:	
MISCELLANEOUS		· · · · · · · · · · · · · · · · · · ·
Base Flow Conditions? (Y/N): Date	of last precipitation: 5 18 20 o	quantity:
Photograph Information:	11411	
Elevated Turbidity? (Y/N): Ca	nopy (% open): \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	(Y/N): (Note lab sample no. or id. and atta	ach results) Lab Number:
Field Measures: Temp (°C) Disse	olved Oxygen (mg/l) pH (S <sub>i</sub> U <sub>i</sub> )	Conductivity (µmhos/cm)
	ream (Y/N) If not, please explain:	
is the sumpling roughly open active of the st		
ID number, In Fish Observed? (Y/N) Voucher? (Y/ Frogs or Tadpoles Observed? (Y/N) Vo	d all observations. Voucher collections optional. NOTI clude appropriate field data sheets from the Primary H  N  Salamanders Observed? (Y/N)  Aquatic Macroinvertebrates Observed?	eadwater Habitat Assessment Manual)  pucher? (Y/N) Voucher? (Y/N) Voucher?
		N N N N N N N N N N N N N N N N N N N
	TIVE DESCRIPTION OF STREAM REAC	H (This <u>must</u> be completed):
Include important landmarks and oth	er features of interest for site evaluation and a na	1 1001
Include Important landmarks and oth		1 1001
Include Important landmarks and oth	er features of interest for site evaluation and a na	1 1001
Include Important landmarks and oth		1 1001
		1 1001
		1 1001
FLOW	( Transmission Li	1 1001
	( Transmission Li	11001

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

SITE NAME/LOCATION CYOURS VITU Philo  SITE NUMBER RIVER BASINO 504004080 DRAINAGE AREA (mi²)	Isawi .
LENGTH OF STREAM REACH (ft) LATS SOUS LONG SI 9936 RIVER CODE RIVER MILE DATE 5 SCORER COMMENTS SOUS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the Complete All Items On This Evaluation Manual for Ohio's PHWH Streams of the Complete All Items On This Evaluation M	
STREAM CHANNEL SHONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING:	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pt]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  GRAVEL (2-64 mm) [9 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrat Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation, Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  > 30 centimeters [20 pts]	Pool Dept Max = 30
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):  > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]  > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]  > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]  COMMENTS	Bankfull Width Max=30
This Information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH  L R (Per Bank) L R (Most Predominant per Bank) L R  Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None	
STREAM GRADIENT ESTIMATE	

QHEI PERFORMED? - Tyes TNo QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
TWWH Name: BYUSh Creek	Distance from Evaluated Stream
CWH Name:	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIR	
SGS Quadrangle Name:N	_
ounty: Muskingum Co.: Township	o / City:
MISCELLANEOUS	€ 5 11
Base Flow Conditions? (Y/N): Date of last precipitation:	3 70 Quantity: 6 50 '
Photograph Information:	,
Elevated Turbidity? (Y/N): Canopy (% open):	
/ere samples collected for water chemistry? (Y/N): (Note lab sai	mple no, or id, and attach results) Lab Number:
eld Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S,U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N) If not, plea	ase explain:
dditional comments/description of pollition impacts:	
dutional comments/description of political impacts.	
BIOTIC EVALUATION	
BIOTIC EVALUATION  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)
BIOTIC EVALUATION  Verformed? (Y/N): (If Yes, Record all observations, Voucher co	illections optional。NOTE: all voucher samples must be labeled with the s leets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh	illections optional。NOTE: all voucher samples must be labeled with the s leets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh  Sh Observed? (Y/N)  Voucher? (Y/N)  Salamanders Observeds or Tadpoles Observed? (Y/N)  Aquatic M	erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh sh Observed? (Y/N) Voucher? (Y/N) Salamanders Obse ogs or Tadpoles Observed? (Y/N) Aquatic M	erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh  Sh Observed? (Y/N)  Voucher? (Y/N)  Salamanders Observeds or Tadpoles Observed? (Y/N)  Aquatic M	erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh  sh Observed? (Y/N)  Voucher? (Y/N)  Salamanders Obse ogs or Tadpoles Observed? (Y/N)  Aquatic N	erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh  sh Observed? (Y/N)  Voucher? (Y/N)  Salamanders Obse ogs or Tadpoles Observed? (Y/N)  Aquatic N	illections optional。NOTE: all voucher samples must be labeled with the sets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  (If Yes, Record all observations, Voucher co ID number, Include appropriate field data shi ish Observed? (Y/N)  Voucher? (Y/N)  Salamanders Observeds or Tadpoles Observed? (Y/N)  Comments Regarding Biology:	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data should be shown to be so the state of the second all observations. Voucher co ID number. Include appropriate field data should be shown to be shown to be shown that the second all observations. Voucher co ID number. Include appropriate field data shows the second all observations. Voucher co ID number. Include appropriate field data should be shown to be shown that the second all observations. Voucher co ID number. Include appropriate field data should be shown to be shown	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh sh Observed? (Y/N)  Voucher? (Y/N)  Salamanders Obse ogs or Tadpoles Observed? (Y/N)  Voucher? (Y/N)  Aquatic N  Omments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data shough on the company of th	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  Prved? (Y/N) Voucher? (
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data should be shown to be so the state of the second state of	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic M omments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION Of Include important landmarks and other features of interest for sit	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data shish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Momments Regarding Biology:	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data should be shought of the common of the c	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data should be solved? (Y/N)  Voucher? (Y/N)  Salamanders Observed or Tadpoles Observed? (Y/N)  Voucher? (Y/N)  Aquatic Momments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION Of Include important landmarks and other features of interest for site	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (
BIOTIC EVALUATION  If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh Sh Observed? (Y/N) Voucher? (Y/N) Salamanders Obse ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic M Omments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION Of Include important landmarks and other features of interest for sit	Illections optional. NOTE: all voucher samples must be labeled with the seets from the Primary Headwater Habitat Assessment Manual)  erved? (Y/N) Voucher? (

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

SITE NAME/LOCATION	tructions
SUBSTRATE (Estimate percent of every type of substrate present. Check ONL Y two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pt]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  GRAVEL (2-64 mm) [9 pts]  Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40  A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  > 30 centimeters [20 pts]	Pool Depth Max = 30  Bankfull Width Max=30
This Information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Co	mpleted):
QHEI PERFORMED? - Yes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)  WWH Name:	Dictance from Evaluated Stream
CWH Name:	
☐ EWH Name:	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE W	ATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS	
County: MUSKINGUM (O Township/C	ity:
MISCELLANEOUS	C. I
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity: • 50
Photograph Information:	
Elevated Turbidity? (Y/N): Name of the Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample	e 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, please	explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	8
Performed? (Y/N): (If Yes, Record all observations. Voucher collect	ions optional NOTE: all voucher samples must be labeled with the site
	from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro	1? (Y/N) \ Voucher? (Y/N) \ \
Frogs or Tadpoles Observed? (Y/N) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
outlines regarding brough.	
· /	
DRAWING AND NARRATIVE DESCRIPTION OF S	
Include important landmarks and other features of interest for site ev	· · · · · · · · · · · · · · · · · · ·
Transmis	sim Line Row 7
FLOW	A , ( )
	Fingsteel
	00
Copen file	Mol
PHWH Form Pa	age - 2

June 20, 2008 Revision

## Chieff Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

	- 10
6	- 1
- 11	- 1

SITE NAME/LOCATION	
SITE NUMBERRIVER BASIN 050 4000 4080 DRAINAGE AREA (mi²) 4501	M:.
LENGTH OF STREAM REACH (ft) LAT. 37.8026 LONG. 82.0018 RIVER CODE RIVER MILE DATE 5 8 20 SCORER 4 COMMENTS S007	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	one
STREAM CHANNEL MONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER	
MODIFICATIONS:	₹Y
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HEI
TYPE PERCENT TYPE PERCENT M	etric oints
BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts]	
BEDIOCK [10 pt] BEDIOCK [10 pt]	bstrate ax = 40
GRAVEL (2-64 mm) [9 pts]	(0
□ □ SAND (<2 mm) [6 pts] □ □ ARTIFICIAL [3 pts]	Ψ
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15 (A)	+ B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
THE A SECOND PROPERTY OF THE P	l Depti
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	x = 30
☐ > 22.5 - 30 cm [30 pts] ☐ < 5 cm [5 pts] ☐ NO WATER OR MOIST CHANNEL [0 pts]	
COMMENTS MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Ba	nkfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] W	/idth ex=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	
COMMENTSAVERAGE BANKFULL WIDTH (meters)	
This left was the country less than the country less	
This Information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH  L. R. (Per Bank)  L. R. (Most Predominant per Bank)  L. R. (Most Predominant per Bank)  L. R. (Most Predominant per Bank)	
Wide >10m	
Field Orban or industrial	
☐ ☐ Narrow <5m	
CTOp Crop	
None COMMENTS Crop Mining or Construction	
□ □ None □ □ Fenced Pasture □ □ Mining or Construction	
None Crop Mining or Construction  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)  Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
None Crop Mining or Construction  FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Intermittent) Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
None Crop Mining or Construction  FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	
None CCOMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	

	be Completed):
QHEI PERFORMED? - TYes YONO QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Brush Creek	
CWH Name:	
J EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTI	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Muskingum (O Townsh	ip / City:
MISCELLANEOUS	-1
Base Flow Conditions? (Y/N): Date of last precipitation:	18 20 Quantity: 3 50"
hotograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
K	ample no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
9 /	
the sampling reach representative of the stream (Y/N) If not, pl	ease explain:
BIOTIC EVALUATION	
ID number. Include appropriate field data s	sheets from the Primary Headwater Habitat Assessment Manual)  served? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
ID number. Include appropriate field data s ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic omments Regarding Biology:	sheets from the Primary Headwater Habitat Assessment Manual)  served? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
ID number. Include appropriate field data s ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic	sheets from the Primary Headwater Habitat Assessment Manual)  served? (Y/N) Voucher? (Y/N) Voucher? (Y/N)  Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
ID number. Include appropriate field data s sh Observed? (Y/N) Voucher? (Y/N) Salamanders Obs ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic omments Regarding Biology:	sheets from the Primary Headwater Habitat Assessment Manual)  served? (Y/N) Voucher? (Y/N) Voucher? (Y/N)  Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
ID number. Include appropriate field data s ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds of Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic omments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION C	served? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
ID number. Include appropriate field data s ish Observed? (Y/N)	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N)  Voucher? (Y/N)  Macroinvertebrates Observed? (Y/N)  OF STREAM REACH (This must be completed):  Site evaluation and a narrative description of the stream's location
ID number. Include appropriate field data is shipper of the shippe	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N)  Voucher? (Y/N)  Macroinvertebrates Observed? (Y/N)  OF STREAM REACH (This must be completed):  Site evaluation and a narrative description of the stream's location
ID number. Include appropriate field data s sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic omments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION C Include important landmarks and other features of interest for s	Served? (Y/N) Voucher? (Y/N) Voucher
ID number. Include appropriate field data is ship observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION Conclude important landmarks and other features of interest for salamanders.	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N) Voucher? (Y/N) Vouch
ID number. Include appropriate field data s ish Observed? (Y/N)	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N) Voucher? (Y/N) Vouch
ID number. Include appropriate field data s ish Observed? (Y/N)	Served? (Y/N) Voucher? (Y/N) Voucher
ID number. Include appropriate field data s ish Observed? (Y/N)	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N) Voucher? (Y/N) Vouch
ID number. Include appropriate field data s ish Observed? (Y/N)	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N) Voucher? (Y/N) Voucher? (Y/N)  Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)  OF STREAM REACH (This must be completed):  Site evaluation and a narrative description of the stream's location
ID number. Include appropriate field data s ish Observed? (Y/N)	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N) Voucher? (Y/N) Vouch
ID number. Include appropriate field data so sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION Conclude important landmarks and other features of interest for some conclude important landmarks.	Sheets from the Primary Headwater Habitat Assessment Manual)  Served? (Y/N) Voucher? (Y/N) Voucher? (Y/N)  Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)  OF STREAM REACH (This must be completed):  Site evaluation and a narrative description of the stream's location
ID number. Include appropriate field data so sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION Conclude important landmarks and other features of interest for some conclude important landmarks.	Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) V

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

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V	2	ı
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HITE Score (sum or metrics 1, 2, 3).	
SITE NAME/LOCATION CYCLORS VITO Philo	
SITE NUMBER RIVER BASIN 05040004080 DRAINAGE AREA (mi²)	Isami
LENGTH OF STREAM REACH (ft) LAT 31.80105 LONG 81.0035 (FIVER CODE RIVER MILE	
DATE 5 16 20 SCORER KU COMMENTS S008	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Ins	tructions
STREAM CHANNEL MONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RE	COVERY
MODIFICATIONS:	
	95
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	HHEI
(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.  TYPE  PERCENT  TYPE  PERCENT	Metric
TYPE PERCENT TYPE PERCENT  BLDR SLABS [16 pts] SILT [3 pt]	Points
BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts]	Substrate
BEDROCK [16 pt] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt]	Max = 40
□ GRAVEL (2-64 mm) [9 pts] □ MUCK [0 pts] □ MUCK [0 pts] □ ARTIFICIAL [3 pts]	
Total of Percentages of (A) Bldr Slabs, Boulder, Cobble, Bedrock	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	
<ol> <li>Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</li> </ol>	Pool Depth Max = 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	
☐ > 22.5 - 30 cm [30 pts]	
COMMENTS MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Max=30
5	5
COMMENTSAVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY &NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Most Predominant per Bank) L R	
Wide >10m ☐ Mature Forest, Wetland ☐ ☐ Conservation Tillage ☐ Immature Forest, Shrub or Old ☐ ☐ Uhon or le distribution	
Moderate 5-10m    Third Made Following   Moderate 5-10m   Urban or Industrial	
☐ ☐ Narrow <5m ☐ Residential, Park, New Field ☐ ☐ Open Pasture, Row	
□ □ None □ □ Fenced Pasture □ □ Mining or Construction	
COMMENTS	_
	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing  Moist Channel, isolated pools, no flow (Intermitten	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial)  Moist Channel, isolated pools, no flow (Intermittent Dry channel, no water (Ephemeral)	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermitten Dry channel, no water (Ephemeral)	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None  1.0  Check ONLY one box): 2.0  3.0	_

QHEI PERFORMED? - TYES TNO QHEI Score (If Yes, Attach Completed QHEI Form)  DOWNSTREAM DESIGNATED USE(S)  Distance from Evaluated Stream  Distance from Evaluated Stream  Distance from Evaluated Stream  Distance from Evaluated Stream  MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order  County: Township / City:	
CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream  MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order	
USGS Quadrangle Name:  Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream  NRCS Soil Map Page: NRCS Soil Map Stream Order	
Distance from Evaluated Stream  MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order	
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order	
County MUSK (Max (Max (C)))	
County. 1 TOTAL TOTAL TOWNSHIP / City.	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S,U.) Conductivity (µmhos/cm)	
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
Performed? (Y/N):  (If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N)  Voucher? (Y/N)  Voucher? (Y/N)  Voucher? (Y/N)  Voucher? (Y/N)  Comments Regarding Biology:	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include important landmarks and other features of interest for site evaluation and a parrative description of the stream's location	_
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	7
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	<u></u>
Include Important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	5
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  Pipeline Row	5
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	<u></u>
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  Pipeline Row	5
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  Pipeline Row	5
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  Pipeline Row	<u> </u>
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  Pipeline Row	\(\frac{5}{\infty}\)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  Pipeline Row	<ul><li>( )</li><li>( )</li></ul>

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



SITE NAME/LOCATION		
RIVE	ER BASIN (504004080 DRAINAGE AREA (mi²)	sami.
DATE 5 18 20 SCORER COMMENT	LONG: 2.00595 CRIVER CODE RIVER MILE S S009	
NOTE: Complete All Items On This Form - Refer to "Field		uctions
STREAM CHANNEL MODIFICATIONS:	☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECO	OVERY
SUBSTRATE (Estimate percent of every type of substrate	a present. Check ONLY two predominant substrate TYPE boxes	
(Max of 40). Add total number of significant substrate types for		HHEI
TYPE PERCENT TYI		Metric
BOULDER (>256 mm) [16 pts]	LEAF PACK/WOODY DEBRIS [3 pts]	Substrate
☐ ☐ BEDROCK [16 pt] ☐ ☐ COBBLE (65-256 mm) [12 pts] ☐ ☐		Max = 40
□ □ GRAVEL (2-64 mm) [9 pts] □		20
SAND (<2 mm) [6 pts]	ARTIFICIAL [3 pts]	0
Total of Percentages of (A)	(B)	A + B
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	TOTAL NUMBER OF SUBSTRATE TYPES:	
Maximum Pool Depth (Measure the maximum pool depth	within the 61 meter (200 ft) evaluation reach at the time of	Pool Dept
evaluation. Avoid plunge pools from road culverts or storm wa	ater pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15 pts] < 5 cm [5 pts]	15
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0 pts]	
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the average of 3-4 measured as		Bankfull
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] = 1.0 m (≤ 3' 3") [5 pts]	Width
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		Wax=30
, , , , , , , , , , , , , , , , , , ,		Max=30
	AVERAGE BANKFULL WIDTH (meters)	Max=30
	AVERAGE BANKFULL WIDTH (meters)	15
COMMENTSThis Informati	ion <u>must</u> also be completed	15
COMMENTSThis Informati RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QU	ion <u>must</u> also be completed ಭNOTE: River Left (L) and Right (R) as looking downstream JALITY	Max=30
This Information of the second	lon <u>must</u> also be completed ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ <u>JALITY</u> Predominant per Bank) <u>L</u> R	15
This Information of the composition of the composit	lon must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream  JALITY  Predominant per Bank)  Forest, Wetland  Conservation Tillage	15
This Informate RIPARIAN ZONE AND FLOODPLAIN QUALITY  RIPARIAN WIDTH  PLOODPLAIN QUALITY  (Per Bank)  Wide >10m  Mature  Immature  Immature  Field	ion must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream ☆  JALITY  redominant per Bank)  Forest, Wetland  re Forest, Shrub or Old  □□□  Urban or Industrial	15
This Information RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Moderate 5-10m Narrow <5m Resider	Ion must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream  JALITY Predominant per Bank) Forest, Wetland re Forest, Shrub or Old  □□□ Urban or Industrial  Open Pasture, Row Crop	15
This Information RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Moderate 5-10m Narrow <5m Resider	Ion must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream  JALITY Predominant per Bank) Forest, Wetland Tree Forest, Shrub or Old  Urban or Industrial  Open Pasture, Row	15
This Information RIPARIAN ZONE AND FLOODPLAIN QUALITY  RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  None  This Information  RIPARIAN VIDTH  This Information  This Information  This Information  RIPARIAN QUALITY  RIPARIAN VIDTH  This Information  This Infor	Ion must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream ☆    ALITY     Tredominant per Bank)   L R     Forest, Wetland	15
This Informate RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH PLOODPLAIN QUALITY RIPARIAN VIDTH Moderate 5-10m Mature Immatur Field Narrow <5m None COMMENTS	Ion must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream ☆    ALITY     Tredominant per Bank)   L R     Forest, Wetland	15
This Information  RIPARIAN ZONE AND FLOODPLAIN QUALITY  RIPARIAN WIDTH  (Per Bank)  (Per Bank)  Wide >10m  Mature  Immatu  Field  Narrow <5m  None  COMMENTS  FLOW REGIME (At Time of Evaluation)  COMMENTS  COMMENTS	Ion must also be completed  ☆NOTE: River Left (L) and Right (R) as looking downstream ☆  JALITY  Predominant per Bank)	15
This Information  RIPARIAN ZONE AND FLOODPLAIN QUALITY  RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  None  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONL Stream Flowing Subsurface flow with isolated pools (Interstitial)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of check on the company of	Jon must also be completed  ANOTE: River Left (L) and Right (R) as looking downstream  JALITY  Predominant per Bank)  Forest, Wetland  re Forest, Shrub or Old  Intial, Park, New Field  Pasture  Moist Channel, isolated pools, no flow (Intermittent)  Dry channel, no water (Ephemeral)  Annuel)  (Check ONLY one box):  2.0  3.0	15
This Information  RIPARIAN ZONE AND FLOODPLAIN QUALITY  RIPARIAN WIDTH  PLOODPLAIN QUALITY  Wide >10m  Mature  Moderate 5-10m  Narrow <5m  None  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONL Stream Flowing Subsurface flow with isolated pools (Interstitial)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of check	Ion must also be completed  ANOTE: River Left (L) and Right (R) as looking downstream  JALITY  Predominant per Bank) Forest, Wetland re Forest, Shrub or Old □□Urban or Industrial  Urban or Industrial  Open Pasture, Row Crop Pasture □□Mining or Construction  LY one box): □□Dry channel, isolated pools, no flow (Intermittent) □□Dry channel, no water (Ephemeral)	15
This Information RIPARIAN ZONE AND FLOODPLAIN QUALITY  RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Mature  Narrow <5m  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 charmonic controls and controls are	Jon must also be completed  ANOTE: River Left (L) and Right (R) as looking downstream ANDALITY  Predominant per Bank)  Forest, Wetland  The Forest, Shrub or Old  The Forest or Old  The For	15

QHEI PERFORMED? - TYES NO QHEI Score	(If Yes, Attach Completed OHEL Form)
•	(II Tes, Attacii Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream
7 CM/H Name:	Distance from Evaluated Stream  Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING TH	HE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
county: MUSKINGUM (O	Fownship / City:
MISCELLANEOUS	7/
Base Flow Conditions? (Y/N): Date of last precipitation:	5 18 20 Quantity: \$50"
ı	Cuantity
Photograph Information:	A.7
Elevated Turbidity? (Y/N): 1 Canopy (% open): 4	<u>0.1</u>
	te lab sample no, or id, and attach results) Lab Number;
N/A	pH (S <sub>c</sub> U <sub>c</sub> ) Con ductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)	f not, please explain:
dditional comments/description of pollution impacts:	
ID number. Include appropriate field	oucher collections optional. NOTE: all voucher samples must be labeled with the si d data sheets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes, Record all observations. Vo	oucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A	oucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A	oucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A	oucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A comments Regarding Biology:	oucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT Include Important landmarks and other features of interest.	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT Include Important landmarks and other features of interest.	oucher collections optional. NOTE: all voucher samples must be labeled with the si d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N):	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT Include Important landmarks and other features of interest.	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT Include Important landmarks and other features of interest.	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamanderogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Accomments Regarding Biology.  DRAWING AND NARRATIVE DESCRIPT Include important landmarks and other features of interest.	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Vo ID number. Include appropriate field ish Observed? (Y/N) Voucher? (Y/N) Salamande rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) A Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT Include Important landmarks and other features of interest.	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N):	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N)  Aquatic Macroinvertebrates Observed? (Y/N)  TON OF STREAM REACH (This must be completed):  st for site evaluation and a narrative description of the stream's location
BIOTIC EVALUATION  Performed? (Y/N):	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N)  Aquatic Macroinvertebrates Observed? (Y/N)  TON OF STREAM REACH (This must be completed):  st for site evaluation and a narrative description of the stream's location
BIOTIC EVALUATION  Performed? (Y/N):	cucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N):	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION  Performed? (Y/N):	bucher collections optional. NOTE: all voucher samples must be labeled with the sid data sheets from the Primary Headwater Habitat Assessment Manual)  ers Observed? (Y/N)  Aquatic Macroinvertebrates Observed? (Y/N)  TON OF STREAM REACH (This must be completed):  st for site evaluation and a narrative description of the stream's location

hio One Environmental Protection Agency	Primary Head	water Habi		luation Form Im of metrics 1+2+3)	54
	EACH (ft) LAT	COMMENTS SO	LONG BZ, DY 10	PRAMAGE AREA (MF)	nstructions
(Max of 32). Add  TYPE  BLDR SLABS BOULDER (2) BEDROCK [1] COBBLE (65) GRAVEL (2-1) SAND (<2 mm  Total of Perc Bidr Slabs, Boulde	PERCEN  [16 pts]  [256 mm) [16 pts]  [6 pts]  [256 mm) [12 pts]  [7 mm) [9 pts]  [8 mm) [9 pts]  [9 pts]	ubstrate types found T TYPE	d (Max of 8). Final metric SILT [3 pt] EAF PACK/WOODY DI INC DETRITUS [3 pts] CLAY OR HARDPAN [0 p MUCK [0 pts] ARTIFICIAL [3 pts]	EBRIS [3 pts]	HHEI Metric Points Substrate Max = 40  A + B
	pts]		n water pipes) (Che 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST	ck ÓNLY one box):	Pool Depth Max = 30
3. BANK FULL WII > 4.0 meters (> 1:	DTH (Measured as the aver 3') [30 pts] - 9' 7"- 13') [25 pts] - 4' 8" - 9' 7") [20 pts]	rage of 3 - 4 measu	rements) (Check Oi > 1.0 m - 1.5 m (> 3' 3" ≤ 1.0 m (≤ 3' 3")[5 pts	NLYone box): -4' 8')[15 pts]	Bankfull Width Max=30
			ustalso be completed		
RIPARI LR (Per	AN WIDTH  Bank)  10m  ste 5-10m  v <5m	FLOODPLAIN  R  Mature Forest  Immature Fore	QUALITY (Most Predon , Wetland est, Shrub or Old Field ark, New Field	ight (R) as looking downstream ninant per Bank)  L R Conservation Tillage Urban or Industrial Open Pasture, Row ( Mining or Construction	Сгор
Stream Fix Subsurfac COMMEN SINUOSIT None 0.5	e flow with isolated pools (int	erstitial)	Moist Channel, Dry channel, no	isolated pools, no flow (intermit) water (ephemeral) box): 3.0 3.0 3.0	tent}
		Moderate  2 1100 1	. Moderate to S	Severe Severe 10	\$100 B

QHEI PERFORMED? Yes	No QHEI Score (If Yes. Attach Completed QHEI form)
DOWNSTREAM DESIGNATED	
CWH Name: BYUSH CYCL	Distance from Evaluated Stream  Distance from Evaluated Stream
☐ EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF	MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order:
county: MUSKINGUMACO	Township/City:
MISCELLANEOUS	-light Foll
Base Flow Conditions? (Y/N)	rate of last precipitation: 5 19 20 Quantity: 50th
Photo-documentation Notes	
Elevated Turbidity?(Y/N):C	. 1
	try?(Y/N): Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Diss	colved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of th	e stream (Y/N) If not, explain:
Additional comments/description of pollution	on impacts:
	BIOLOGICAL OBSERVATIONS
6	(Record all observations below)
Fish Observed? (Y/N) Species of	observed (if known):
	Species observed (if known)
	pecies observed (if known);
Comments Regarding Biology:	
Include important landmarks an	ATIVE DESCRIPTION OF STREAM REACH (This must be completed) d other features of interest for site evaluation and a narrative description of the stream's location
	Transmissimline ROW >
1 Forestool	
FLOW	
FLOW	
	openfield (Foresteel)
$\setminus$	4
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Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	37
SITE NAME/LOCATION CION SUM PROPERTY OF STREAM REACH (#) LAT PROPERTY LONG 82, 00354 RIVER MILE DATE SUPERIYON SCORER COMMENTS SO11  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for STREAM CHANNEL MODIFICATIONS: NONE NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	nstructions
1. SUBSTRATE (Estimate percent of every type present), Check ONLY two predominant substrate TYPE boxes.  (Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  GRAVEL (2-64 mm) [9 pts]  SAND (<2 mm) [6 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE; River Left (L) and Right (R) as looking downstream	
RIPARIAN WIDTH  L R (Per Bank)  L R  Wide >10m  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  What Open Pasture, Row  None  Fenced Pasture  Work River Lett (2) and Right (4) as obtaining downstream  (Most Predominant per Bank)  L R  L R  Conservation Tillage  Immature Forest, Shrub or Old Field  Urban or Industrial  Open Pasture, Row  Mining or Construction  COMMENTS	Сгар
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermit Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0  0.5   1.5   2.5   >3  STREAM GRADIENT ESTIMATE	ttent)
Flat 05 \$100 \$ Flat to Moderate Moderate 2 \$100 \$ Moderate to Severe Severe Severe 10	1/100 1

QHEI PERFORMED? Yes No QHEI Score	(If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Change	
WWH Name: DYUSH CIRCK	Distance from Evaluated Stream	
☐ CWH Name:	Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE	EWATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: NRCS S	Soil Map Page: NRCS Soil Map Stream Order:	
usgs Quadrangle Name: NRCS s  County: Muskingum Co Township	p/City:	
MISCELLANEOUS		
Base Flow Conditions? (Y/N) Date of last precipitation:	Quantity: .50"	
Photo-documentation Notes		
Elevated Turbidity?(Y/N): N Canopy (% open): 351	<u> </u>	
Were samples collected for waterchemistry? (Y/N): Lab	Sample # or ID (attach results):	
Field Measures:Temp (*C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)	
is the sampling reach representative of the stream (Y/N) $\frac{1}{N}$ If not,	explain:	
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSER\ (Report all observation		
Fish Observed? (Y/N) Species observed (if known):		
Frags or Tadpoles Observed? (Y/N) N Species observed (if know	wn);	
Salamanders Observed? (Y/N) N Species observed (if known);_		
Aquatic Macroinvertebrates Observed? (Y/N) 1	ed (if known):	
Comments Regarding Biology:		
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This must be completed)	
	site evaluation and a narrative description of the stream's location	
	)	
Foresteal	3	
) (Horong)		
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	ROW	/
~()/	Transmission live 1 100	
$\prec$	pentiela	11
$\sim 1 - 1$	Transmissionline Row openfield	11
		( )
October 2018 Revision Page 2	1	14/19/

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	26
SITE NAME/LOCATION CYCONSVILLO POLICY STEEN NAME AND COMMENTS SO 12  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	
STREAM CHANNEL MODIFICATIONS: NONE NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] SLT [3 pt]  BEDROCK [16 pts] SLAF PACKWOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
COMMENTS MAXIMUM POOL DEPTH (centimeters):	Residual
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]   > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]   > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]   ≤ 1.0 m (≤ 3' 3")[5 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY — NOTE: River Left (L) and Right (R) as looking downstream	
RIPARIAN WIDTH  L R (Per Bank)  L R  Wide >10m	rop
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermitt)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS	ent)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	
STREAM GRADIENT ESTIMATE  Flat 10.5 10.00 1 Flat to Moderate Moderate 2 11.00 1 Moderate to Severe Severe Severe 10.10	100 %

QHEI PERFORMED? Yes No QHEI Score (If Yes,	Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: BYUSH CYCCK	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream  Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	
USGS Quadrangle Name: NRCS Soil Map Page	: NRCS Soil Map Stream Order:
county: Muskingum Co. Township/City:	
MISCELLANEOUS	li .
Base Flow Conditions? (Y/N): Date of last precipitation: 5/19/20	Quantity:
Photo-documentation Notes	
Elevated Turbidity?(Y/N): N Canopy (% open): 901	
Were samples collected for water chemistry? (Y/N):	D (attach results):
Field Measures:Temp (FC) Dissolved Oxygen (mg/l) pH (S.U	.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:	
Additional comments/description of pollution impacts	
BIOLOGICAL OBSERVATIONS	1
(Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) M Species observed (if known):	
Salamanders Observed? (Y/N) Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREA	M REACH (This must be completed)
in isoline Row	
Transmissioner	
Rold	9 ) 9 )
Include important landmarks and other features of interest for site evaluation  TVansmission Line Row  Open Reld	
FLOW	
	Follow
	7 7 5 7
	17/2

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION CYCO SVILLE POINT SITE NUMBER RIVER BASIN BYUSD CYCLE RIVER CODE (SVILLE) CORRENTAGE AREA (MF) _ LENGTH OF STREAM REACH (N) LAT 31, 7590 LONG 82,010403 RIVER MILE _ DATE 51970 SCORER KLV COMMENTS S013	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	structions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] SLT (3 pts]  COBBLE (65-256 mm) [12 pts] SAND (<2 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A)  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY - NOTE: River Left (L) and Right (R) as booking downstreams	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermitted)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	ent)
None       1.0       2.0       3.0         0.5       1.5       2.5       >3	
STREAM GRADIENT ESTIMATE  Flat 0.5 \$100 \$1  Moderate Severe Severe Severe Severe Severe	100 (5)

	(If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)  WWH Name: BUSH CYCCL	Distance from Evaluated Stream
☐ CWH Name:	Distance from Evaluated Stream
☐ CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE W	VATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: NRCS Soil	Map Page:NRCS Soil Map Stream Order:
County: MUSKINGUM CO. Township/C	Sity:
MISCELLANEOUS	010 = 0
Base Flow Conditions? (Y/N) Date of last precipitation:	Quantity: 50
Photo-documentation Notes	
Elevated Turbidity?(Y/N): N Canopy (% open): 351.	
Vere samples collected for water chemistry? (Y/N): Lab Sa	imple # or D (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	
is the sampling reach representative of the stream (Y/N) $\longrightarrow$ If not, ex	plain;
Additional comments/description of pollution impacts	
Figh Observed? (Y/N) Species observed (if known):  Figh Observed? (Y/N) Species observed (if known):  Frogs or Tadpoles Observed? (Y/N) Species observed (if known):  Salamanders Observed? (Y/N) Species observed (if known):	):
Aquatic Macroinvertebrates Observed? (Y/N) $\overline{\mathcal{M}}$ Species observed (i	if known):
comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF	
Transmission Line	
.ow	
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hio One Environmental Pristos Agency	Primary He	eadwater Ha		/aluation Form sum of metrics 1+2+3)	24
	REACH (ft) SCORER KU  ttems On This Form	9	S014 LONG 824	Ohio's PHWH Streams" for	Instructions
(Max of 32), Ad  TYPE  BLDR SLA  BOULDER  BEDROCK  COBBLE (6  GRAVEL (2)  SAND (<2)  Total of Pei  Bidr Slabs, Bould	d total number of signified by the BS [16 pts] (>256 mm) [16 pts]	Can't substrate types RCENT TYPE  15 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17	found (Max of 8) Final me  SILT [3 pt]  LEAF PACK/WOODY  FINE DETRITUS [3 p  CLAY or HARDPAN [  MUCK [0 pts]  ARTIFICIAL [3 pts]	ots]	HHEI Metric Points Substrate Max = 40
L-1	ion. Avoid plunge pools s [20 pts] [30 pts]		storm water pipes) (Cl 5 cm - 10 cm [15 pt < 5 cm [5pts] NO WATER OR MO		Pool Depti Max = 30
3. BANK FULL V  > 4.0 meters (> > 3.0 m - 4.0 m	,	ie average of 3 - 4 m	easurements) (Check  > 1.0 m -1.5 m (> 3')  < 1,0 m (< 3'3')[5 p)	( ONLY one box): 13" - 4" 8")[15 pts]	Bankfull Width Max=30
			on <u>mus</u> taiso becomple		
RIPAF L R (Pe Wide Mode Nam None	RIAN WIDTH er Bank) >10m erate 5-10m ow <5m	FLOODPL L R Mature Fo Immature Residenti	AIN QUALITY (Most Pred prest, Wetland Forest, Shrub or Old Fiel al, Park, New Field asture	L R Conservation Tillage	: Crop
Stream F Subsurfi COMME SINUOS None 0.5	iowing ace flow with isolated po	ols (interstitial)	Moist Channe	el, isolated pools, no flow (intermino water (ephemeral)  ne box):  3.0  >3	iittent)
STREAM GRA	MENT ESTIMATE  Flat to Moderate	Moderate  2 #10	Moderate to	o Savere Severe III	1 1/100 1

# ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score \_\_\_\_\_ (If Yes. Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream EWH Name: MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. trangle Name: \_\_\_\_\_\_ NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order: \_\_\_\_\_ MUSKINGUM CO . \_\_\_\_\_ Township/City: \_\_\_\_\_ USGS Quadrangle Name: \_\_\_\_\_ County:\_\_\_ MISCELLANEOUS Base Flow Conditions? (V/N): Date of last precipitation: 5/9/20 Quantity: 15011 Photo-documentation Notes. Elevated Turbidity?(Y/N): Canopy (% open): 30 ( Were samples collected for waterchemistry? (Y/N): \_\_\_\_\_\_ Lab Sample # or ID (attach results): \_\_\_\_\_ Field Measures:Temp (°C) \_\_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) is the sampling reach representative of the stream (Y/N) \_\_\_\_\_\_ If not, explain: \_\_\_\_\_\_ Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamenders Observed? (Y/N) N Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location transmissionline

DEBBLE (85-258 mm) [12 pts]	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	24
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL   RECOVERING   RECOVERY   RECOVER	SITE NUMBER RIVER BASIN BYUSHICYPUL RIVER CODE()SULUMU BRAINAGE AREA (mir)	
(Max of 32). Add total number of significant substrate types found (Max of 3). Final metric score is sum of boxes a 8 Metric    PRECENT   TYPE	· ·	
time of evaluation. Ávoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    30 centimeters (20 pts)	(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  SILT [3 pt]  BULDER (>256 mm) [16 pts]  BEDROCK [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  SAND (<2 mm) [6 pts]  Total of Percentages of  Bidr Slabs, Boulder, Cobble, Bedrock  (A)  (B)	Metric Points Substrate Max = 40
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):  > 4.0 meters (> 13') [30 pts]  > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts]  > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts]  COMMENTS  AVERAGE BANKFULL WIDTH (meters)  This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY  * NOTE: River Left (L) and Right (R) as looking downstreams  RIPARIAN WIDTH  L R (Per Bank)  L R  Wide > 10m	time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]     > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]     > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]	Pool Depth Max = 30
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R L R  Wide > 10m Mature Forest, Wetland Conservation Tillage    Moderate 5-10m   Immature Forest, Shrub or Old Field Urban or Industrial    Narrow <5m   Residential, Park, New Field   Open Pasture, Row Crop    None   Fenced Pasture   Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   10   2.0   3.0  0.5   1.5   2.5   >3	3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Width
RIPARIAN ZONE AND FLOODPLAIN QUALITY & NOTE: River Left (L) and Right (R) as looking downstream.  RIPARIAN WIDTH		
Stream Flowing Subsurface flow with isolated pools (interstitial)  COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0 0.5 3.0 2.5	RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreams  RIPARIAN WIDTH	rop
Flat io Moderate Moderate 2 200 1 Moderate to Severe Severe 10 2100 2	Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2,0 3.0 0.5 STREAM GRADIENT ESTIMATE	-

DOWNSTREAM DESIGNATED USE(S)  WWH Name: BWSh CKICK	Dietarce from Evakusted Streem
CIAH Name: Droy (Clate)	Distance from Evaluated Stream Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCI	LUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name:	NRCS Soil Map Page:NRCS Soil Map Stream Order:
county: Muskingum Co.	Township/City:
MISCELLANEOUS	1
Base Flow Conditions? (Y/N) Date of last	precipitation: 5/19/20 quantity: 50"
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (%	open): 85(-
	Lab Sample # or ID (attach results):
0	E.
Field Measures:Temp (°C) Dissolved Oxy	gen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (	Y/N) If not, explain:
Additional comments/description of pollution impacts	
	LOGICAL OBSERVATIONS Report all observations below)
	if known):
irons or Tedpoles Observed? (V/N) N Space	s observed (if known):
K 1	erved (if known):
equatic Macroinvertebrates Observed? (Y/N) 1 3	Species observed (if known):
Comments Regarding Biology:	

Transmissimble Row open field

FLOW

Primary Headwater Habitat Field Evaluation Form  (Phase Extraorderical Phase Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	65
SITE NAME/LOCATION CYCLO Philo SITE NUMBER RIVER BASIN BRUSH CYCLO RIVER CODE COUNTY CORRAINAGE AREA (mir) LENGTH OF STREAM REACH (ft) LAT 39, 7945944 LONG 82.017.2854 RIVER MILE DATE 519720 SCORER COMMENTS S016  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Ins	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO	O RECOVERY
1. SUBSTRATE (Estimate percent of every type present), Check ONLY (wo predominant substrate TYPE boxes (Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts]  BEDROCK [16 pts] SLT (3 pt]  COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  (A)  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH  L R (Per Bank)  L R  Wide > 10m	∌p
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None	00 A

QHEI PERFORMED?   Yes   No QHEI Score   (If Yes, Attach Completed QHEI form)
DOWNSTREAM, DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
☐ CWH Name:     Distance from Evaluated Stream       ☐ EWH Name:     Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA, CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:  County: NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: MOKINGUM CO. Township/City:
MISCELLANEOUS
Base Flow Conditions? (Y/N) Date of last precipitation: 5/19/20 Quantity: .50//
Photo-documentation Notes:
Elevated Turbidity?(Y/N): Canopy (% open):
Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (If known):
Salamanders Observed? (Y/N) Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Transmission line how
Forestal Transmission line ROW openfield
FLOW
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Page 2

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Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	55
SITE NAME/LOCATION CYOURS/III Philo SITE NUMBER RIVER BASIN BY SALVE RIVER CODE (FOHOMY) OF RAINAGE AREA (mif) _ LENGTH OF STREAM REACH (#) LAT 31.79948 LONG 32.01(03) RIVER MILE _ DATE 519170 SCORER KLV COMMENTS S017  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	
STREAM CHANNEL MODIFICATIONS: None / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] SLT [3 pt]  BEDROCK [16 pts] SLEAF PACK/WOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] SHD CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]     > 22.5 - 30 cm [30 pts]   (5 cm [5pts]     > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]     COMMENTS   MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box);  > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY • NOTE: River Left (L) and Right (R) as looking downstreams  RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field None Renced Pasture COMMENTS	гор
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermitt)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0  0.5   1.5   2.5   >3  STREAM GRADIENT ESTIMATE	ent)
☐ Flat io 5 \$100 \$: ☐ Flat to Moderate ☐ Moderate 2 \$100 \$ ☐ Moderate to Severe ☐ Severe 10 \$	100 %

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream ☐ EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Page: \_\_\_\_\_\_ NRCS Soil Map Stream Order:\_\_\_\_\_ USGS Quadrangle Name: Muskingum Co. Township/City:\_\_\_\_ MISCELLANEOUS Base Flow Conditions? (V/N) Date of last precipitation: 5/19/20 Quantity: 50" Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 75/. Were samples collected for water chemistry? (Y/N): \_\_\_\_\_\_\_ Lab Sample # or ₪ (attach results): \_\_\_\_\_\_ Field Measures:Temp (°C) \_\_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_\_ pH (S.U.) \_\_\_\_\_\_ Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) \_\_\_\_\_ If not, explain: \_\_\_\_\_\_ Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (If known): Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location - Transmissimline Row openfield FLOW

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Phio North Con Agency	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2-	+3) 47
NOTE: Complete All	RIVER BASIN BYUSA CIVER RIVER CODE 0504004 DRAINAGE AREA (1	for Instructions
(Max of 32). Ad  TYPE  BLDR SLA  BOULDER  BEDROCK  COBBLE ((  GRAVEL ()  SAND (<2)  Total of Pe  Bidr Slabs, Bould	(Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes and total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A PERCENT TYPE  BS [16 pts] SLT [3 pt] PERCENT  (>256 mm) [16 pts] SLT [3 pt] SLEAF PACKWOODY DEBRIS [3 pts] CLAY or HARDPAN [0 pt] SS-256 mm) [12 pts] MUCK [0 pts] MUCK [0 pts] ARTIFICIAL [3 pts] Centages of ter, Cobble, Bedrock (A) TOTAL NUMBER OF SUBSTRATE TYPES:	
	30 pts]	Pool Depth Max = 30
> 4.0 meters (> > 3.0 m - 4.0 m	70TH (Measured as the average of 3 - 4 measurements) (Check <i>ONL</i> Y one box):  13') [30 pts]	Bankfull Width Max=30
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	4
L R (Pe	This information mustalso be completed  AN ZONE AND FLOODPLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downs  RIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  I R I R  >10m	iilage trial
COMME COMME FLOW I Stream F Subsurf COMME	Fenced Pasture Mining or Const  NTS	truction
None 0.5	1.0	୮୫ ଓ ୧୯୮୬ ବ
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QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM PESIGNATED USE(S)
Distance from Evaluated Stream
□ CWH Name:     Distance from Evaluated Stream       □ EWH Name:     Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Co. Township/City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation:
Photo-documentation Notes:
Elevated Turbidity?(Y/N) Canopy (% open):
Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS
(Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Forestal Transmission line Roll/openfield
(All all all all all all all all all all
FLOW
October 2018 Revision Page 2

Print	mary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	27]
LENGTH OF STREAM REACH (II) DATE 5 19 20 SCORER NOTE: Complete All Items On	VER BASIN BYUSINCYCLE RIVER CODE COULDNY HOUR INAGE AREA (MIF)	
	[16 pts]	MHEI Metric Points Substrate Max = 40
	plunge pools from road culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
3. BANK FULL WIDTH (Med  > 4.0 meters (> 13') [30 pts  > 3.0 m - 4.0 m (> 9' 7"-13')  > 1.5 m - 3.0 m (> 4' 8" - 9')  COMMENTS	3') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]	Bankfull Width Max=30
	This information must also be completed	
RIPARIAN ZONE A  RIPARIAN WIDTH L R (Per Bank) Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS	L R	p p
Stream Flowing Subsurface flow with COMMENTS	ber of bends per 61 m (200 ft) of channel) (Check ONLY one box):	en.

	'es, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)  WWH Name:  CWH Name:  EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERS	HED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: NRCS Soil Map F County: MUS Kingum CO Township/City:	Page:NRCS Soil Map Stream Order:
MISCELLANEOUS	
Base Flow Conditions? (Y/N) Date of last precipitation:	Quantity: 450"
Elevated Turbidity?(Y/N) Canopy (% open): 90 (	
Were samples collected for water chemistry? (Y/N): N Lab Sample 4	or ID (attach results):
, Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH :	(S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/M) $\longrightarrow$ If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known)	
Salamanders Observed? (Y/N) Species observed (if known);	
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if know	
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if know	REAM REACH (This must be completed)
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if know Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STR	REAM REACH (This must be completed)

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	27
SITE NAME/LOCATION CLOUNS VILLE Phild  SITE NUMBER RIVER BASIN BY SOURCE RIVER CODEOS SUPPONDED OR ANAGE AREA (MIF)  LENGTH OF STREAM REACH (II) LAT 29.79 1739 LONG 82.01 (a)27 RIVER MILE  DATE 51970 SCORER COMMENTS SO20  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instance Channel Modifications: None/ Natural Channel Recovered Recovering Recent or N	structions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SILT [3 pt]  BEDROCK [16 pts] LEAF PACKWOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]  GRAVEL (2-84 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40  A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]   > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]   NO WATER OR MOIST CHANNEL [0pts]     COMMENTS   MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
Thomas I	
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH  L R (Per Bank)  L R  Wide >10m  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Whoderate 5-10m  Narrow <5m  None  Residential, Park, New Field  COMMENTS  Proced Pasture  (Most Predominant per Bank)  L R  L R  Mature Forest, Wetland  Urban or Industrial  Open Pasture, Row Cr  Fenced Pasture  Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermitte)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	ent)
None   1.0   2.0   3.0   0.5   1.5   2.5   >3   STREAM GRADIENT ESTIMATE	
☐ Flat াত হ লাজে বা ☐ Flat to Moderate প্রতিশেষ হৈ হাজে বা ☐ Moderate to Severe ☐ Severe াত ৰুণ	00 8

QHEI PERFORMED?   Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED (USE(S)	
WWH Name:	
CWH Name: Distance from Evaluated Stream	
Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:	
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order: County: Township/City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation: 5/19/70 Quantity: 50/1	
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (% open):	
Were samples collected for waterchemistry? (Y/N): Lab Sample ≢ or ₺ (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
is the sampling reach representative of the stream (Y/N) If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS	
(Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) Species observed (If known):	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed	ı.
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	,
(A X 1 ) (C.O.)	Si.
HIVE LIVE KOW/ Spentfeld	
Transmissin Line Row spenfield	1
	1
VV	

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	27
SITE NAME/LOCATION CYCOSVII(0 POLO SITE NUMBER RIVER BASIN BYUS CYCOL RIVER CODEO TO COMPANAGE AREA (MIF) LENGTH OF STREAM REACH (11) LAT 39.78731(0 LONG 82.077412 RIVER MILE DATE 5/20/20 SCORER COMMENTS SO21  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	
STREAM CHANNEL MODIFICATIONS: NONE NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & 8  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt] BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] COBBLE (65-256 mm) [12 pts] SLT (3 pts] COBBLE (65-256 mm) [12 pts] SAND (<2 mm) [6 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Neasure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]   > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]   NO WATER OR MOIST CHANNEL [0pts]    COMMENTS   MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
3. BANK FULL WIOTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY • NOTE: River Left (L) and Right (R) as looking downstream.    RIPARIAN WIDTH	rop 1
Subsurface flow with isolated pools (interstitlat)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None  1.0  2.0  3.0  0.5  STREAM GRADIENT ESTIMATE  Flat to Moderate  Moderate 2 200 > 3  STREAM GRADIENT ESTIMATE	100 %

QHEI PERFORMED? Yes No QHEI Score	(If Yes, Attach Completed QHE! form)
DOWNSTREAM DESIGNATED JUSE(S)	
X WWH Name: BYUSh CIBEK	Distance from Evaluated Stream
CWH Name	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING TH	E ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name:	NRCS Soil Map Page:NRCS Soil Map Stream Order:
county: MUSKINGLIM (O. T	ownship/City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N) Date of last precipitation	on: $5/20/70$ quantity: $150''$
Photo-documentation Notes	,
Elevated Turbidity?(Y/N): Canopy (% open):	001.
	Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)
the sampling reach corresponding of the stream (VAI)	If not, explain:
Additional comments/description of pollution impacts:	
BIOLOGICAL	OBSERVATIONS
BIOLOGICAL (Record all obs	OBSERVATIONS servations below)
BIOLOGICAL (Record all observed? (Y/N) Species observed (if known)	OBSERVATIONS servations below)
BIOLOGICAL (Record all observed? (Y/N) \( \sum \) Species observed (if known).	OBSERVATIONS servations below)  If (if known):
BIOLOGICAL (Record all observed? (Y/N) \( \sum \) Species observed (if known).	OBSERVATIONS servations below)
BIOLOGICAL (Record all observed? (Y/N) \( \sum_{\text{N}} \) Species observed (if known)  Frogs or Tadpoles Observed? (Y/N) \( \sum_{\text{N}} \) Species observed  Salamanders Observed? (Y/N) \( \sum_{\text{N}} \) Species observed (if known).	OBSERVATIONS servations below)  If (if known):
BIOLOGICAL (Record all observed? (Y/N) Species observed (if known).  Frogs or Tadpoles Observed? (Y/N) Species observed (if known).  Salamanders Observed? (Y/N) Species observed (if known).	OBSERVATIONS servations below)  d (if known):
BIOLOGICAL (Record all observed? (Y/N) Species observed (if known).  Frogs or Tadpoles Observed? (Y/N) Species observed (if known).  Salamanders Observed? (Y/N) Species observed (if known).	OBSERVATIONS servations below)  d (if known):
BIOLOGICAL (Record all observed? (Y/N) Species observed (if known).  Frogs or Tadpoles Observed? (Y/N) Species observed (if known).  Salamanders Observed? (Y/N) Species observed (if known).	OBSERVATIONS servations below)  d (if known):
BIOLOGICAL (Record all objection of Comments Regarding Biology:	OBSERVATIONS servations below)  d (if known):
BIOLOGICAL (Record all observed? (Y/N) Species observed (if known).  Frogs or Tadpoles Observed? (Y/N) Species observed (if known).  Salamanders Observed? (Y/N) Species observed (if known).  Aquatic Macroinvertebrates Observed? (Y/N) Species of Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT	OBSERVATIONS servations below)  I (if known):
BIOLOGICAL (Record all observed? (Y/N) Species observed (if known).  Frogs or Tadpoles Observed? (Y/N) Species observed (if known).  Salamanders Observed? (Y/N) Species observed (if known).  Aquatic Macroinvertebrates Observed? (Y/N) Species of Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPT	OBSERVATIONS servations below)  # (if known):  Diserved (if known):  TION OF STREAM REACH (This must be completed)
BIOLOGICAL (Record all objection of the property of the proper	OBSERVATIONS servations below)  If (if known): Disserved (if known):  TION OF STREAM REACH (This must be completed) rest for site evaluation and a narrative description of the stream's location
BIOLOGICAL (Record all objection of the property of the proper	OBSERVATIONS servations below)  If (if known):  Disserved (if known):  TION OF STREAM REACH (This must be completed) rest for site evaluation and a narrative description of the stream's location
BIOLOGICAL (Record all objection of the property of the proper	OBSERVATIONS servations below)  If (if known): Disserved (if known):  TION OF STREAM REACH (This must be completed) rest for site evaluation and a narrative description of the stream's location
BIOLOGICAL (Record all objection of the property of the proper	OBSERVATIONS servations below)  # (if known):  Diserved (if known):  TION OF STREAM REACH (This must be completed)

DEUROUS (1919)	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3	30
Max of 32), Additional number of significant substrate types found (Max of 8). Final metric score is sum of boxes at 8.   PERCENT TYPE   SLOT SLABS [16 pts]   PERCENT SLOT SLOT SLOT SLOT SLOT SLOT SLOT SLO	SITE NUMBER RIVER BASIN BY CONCULL RIVER CODE SHOWLD BRAINAGE AREA (mF)  LENGTH OF STREAM REACH (ft) LAT 31.78 SYY LONG 82.023118 RIVER MILE  DATE 2070 SCORER COMMENTS S022  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for	r Instructions
Some continuences (20 pts)	(Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & 6.  TYPE  PERCENT  SILT [3 pt]  BUDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  SAND (<2 mm) [6 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  (A)  (B)	Metric Points Substrate Max = 40
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R L R  Wide > 10m   Mature Forest, Wetland   Conservation Tillage   Immature Forest, Shrub or Old Field   Urban or Industrial   Narrow < 5m   Residential, Park, New Field   Open Pasture, Row Crop   None   Renced Pasture   Mining or Construction    COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)   Dry channel, no water (ephemeral)    COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1,0   2,0   3,0    0.5   1,5   2,5   > 3	3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):  > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3' - 4' 8') [15 pts]  > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	Width
RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R L R  Wide >10m	- Days	
STREAM GRADIENT ESTIMATE  [Flat   ರಾಶ್ರ ಕಾರ್ಯ ಸ್ಟ್	RIPARIAN ZONE AND FLOODPLAIN QUALITY • NOTE: River Left (L) and Right (R) as looking downstre    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	e v Crop tion

DH.	E) PEDEODMEN? TV-	be Who OHEL Coom	/IFVan	Attach Completed QHE! form)	
			(a res.	Augui Completed Uner Iorm)	
DO TAWWH Na	wnstream designate tie: <u>ByUSh Ci</u>	PCK		Distance from Evaluated Stre	am
CWH Nar	ne:	2512		Distance from Evaluated Stre	
EWH Nar	ne:			Distance from Evaluated Stre	em
8,6	APPING: ATTACH COPIES	OF MAPS, INCLUDING TH	HE ENTIRE WATER SHED	AREA. CLEARLY MARK THE SITE	LOCATION.
USGS Quad	angle Name:		NRCS Soil Map Page	: NRCS Soil Map Stro	am Order:
County:	Muskingum (	0	Township/City:		
	SCELLANEOUS		W 10		7.5
Base Flow C	onditions? (Y/N):	Date of last precipitat	ion: 5/20/20	Quantity: _,50"	
Photo-docum	entation Notes		\a. /		
Elevated Turi	oidity?(Y/N):	Сапору (% орел):	10 L		
Were sample	s collected for water cher	nistry?(Y/N): N	Lab Sample # or	D (attach results):	
Field Measur	es:Temp (°C) D	issolved Oxygen (mg/l)	pH (S.U	.) Conductivity (umb)	s/cm)
is the sampli	ng reach representative o	f the stream (Y/N)	/ If not, explain:		
Additional co	mments/description of pol	ution impacts:			
		-	OBSERVATIONS		
Eigh Oheanu	HOWAN N		bservations below)		
Carro on Tod	specie	is observed (if known);	and class and a second		
		. 1			
Aquatic Macı	oinvertebrates Observed	? (Y/N) Species	observed (if known)_		
Comments R	egarding Biology:				
	BAMMING VIND NVD	RATIVE DESCRIE	TION OF STREA	M REACH (This must be	completedi
				and a narrative description of the	550
					_
		Transmissi	mune KO	WID OI -	
			men Shu	Hartreld	
		(	year only		
- (Wo					
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Page 2

Phio One Emmanarea Protestance Agency	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	ola
NOTE: Complete All	RIVER BASIN BYUSH CHICK RIVER CODE OSU 400 OF MINAGE AREA (MIF)	tructions
(Max of 32). Ac TYPE BLDR SLAI BOULDER BEDROCK COBBLE (6 GRAVEL (2 SAND (<2 r Total of Per Bidr Slabs. Bould	Estimate percent of every type present), Check ONLY two predominant substrate TYPE boxes.  Id total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  PERCENT TYPE  BS [16 pta] SLT [3 pt] LEAF PACKWOODY DEBRIS [3 pta] CLAY or HARDPAN [0 pt]  SS-256 mm) [12 pta] CLAY or HARDPAN [0 pt]  Techniques of ler, Cobble, Bedrock (A) TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
	ion. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  s [20 pts]	Pool Depth Max = 30
3. BANK FULL W > 4.0 meters (> > 3.0 m - 4.0 m	ADTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull Width Max=30
	This information mustalso be completed	
L R (Pe	AN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIAN WIDTH  FLOODPLAIN QUALITY (Most Predominant per Bank)  FR Bank)  I R  Mature Forest, Wetland Conservation Tillage  Frate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial  Fow <5m Residential, Park, New Field Open Pasture, Row Crop  Fenced Pasture Mining or Construction	р
FLOW F Stream F Subsurft COMME SINUOS None 0,5	REGIME (At Time of Evaluation) (Check ONLY one box):  Sowing	it)
	Flat to Moderate Moderate 2 \$100 \$ Moderate to Severe Severe Severe 10 \$100	0.2

QHEI PERFORMED? Yes No QHEI Score (if Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)  WWH Name:  CWH Name:  Distance from Evaluated Stream  Distance from Evaluated Stream  Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:  County: Township/City:
O Company of the comp
Base Flow Conditions? (Y/N) Date of last precipitation: 5/20/20 Quantity: (50")
Photo-documentation Notes
Elevated Turbidity?(Y/N): Canopy (% open): 90 (
Were samples collected for water chemistry? (Y/N): Lab Sample # or ₺ (attach results):
Field Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) Species observed (if known):
Salamenders Observed? (Y/N) Species opserved (if known):
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Forestaf Transmission Line Row
FLOW
M
Frofice

hio Prin	mary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	51]
DATE 5 19 20 SCORER NOTE: Complete All Items On	0004	ructions
	PERCENT TYPE  SILT [3 pt]  In [16 pts]	HHEI Metric Points Substrate Max = 40
	plunge pools from road culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7'-13' > 1.5 m - 3.0 m (> 4' 8' - 9')  COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8')[15 pts] 3')[25 pts]	Bankfull Width Max=30
-	This information mustalso be completed	
RIPARIAN WIDT  (Per Bank)  Wide >10m  Moderate 5-10r  Narrow <5m  None  COMMENTS	L R  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Residential, Park, New Field  Open Pasture, Row Crop  Fenced Pasture  Mining or Construction	
Stream Flowing Subsurface flow w COMMENTS SINUOSITY (Num None 0.5 STREAM GRADIENT ES	(At Time of Evaluation) (Check ONLY one box):    Moist Channel, isolated pools, no flow (intermittent)	
		- 4

Distance from Evaluated Stream  Distance from Evaluated Stream  MAPPING: ATTACH COPIES OF MAPS. INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.  JSGS Quadrangle Name: NRCS Soil Map Page NRCS Soil Map Stream Order:  Township/Cay:  MISCELLANEOUS  Base Flow Conditions? (Y/N) Date of last precipitation: Severated Turbidity?(Y/N): Canopy (% open):  QUantity:  Canopy (% open): Protected occumentation Notes  Severated Turbidity?(Y/N): Lab Sample & or ID (attach results): Field Measures: Temp (*C) Dissolved Oxygen (mg/l) If not, explain:  BIOLOGICAL DBSERVATIONS Record all observed (If known): Fish Observed? (Y/N) Species observed (If known): Additional comments/description of pollution impacts.  BIOLOGICAL DBSERVATIONS Record all observations below)  Species observed (If known): Additional Comments (If the Mark The Stream Oxygen) (If not, explain):  DISSOLVED Species observed (If known): Additional Comments (If the Mark The Stream Oxygen) (If known): Additional Comments (If the Mark The Stream Oxygen) (If known): Additional Comments (If the Mark The Stream Oxygen) (If known):  Additional Comments (If the Mark The Stream Oxygen) (If known):  Additional Comments (If the Mark The Stream Oxygen) (If known):  Additional Comments (If the Mark The Stream Oxygen) (If known):  Additional Comments (If known):  BIOLOGICAL OBSERVATIONS  (If not, explain:  BIOLOGICAL OBSERVATIONS  (If	Distance from Evaluated Stream NaPPING: ATTACH COPIES OF MARS. INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.  USOS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: MISCELLANEOUS Distance from Evaluated Stream NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: MISCELLANEOUS Distance from Evaluated Stream NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: MISCELLANEOUS Distance from Evaluated Stream NRCS Soil Map Page: NRCS Soil Map Page: NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: MISCELLANEOUS Distance from Evaluated Stream Distance from Evaluated Stream NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: MISCELLANEOUS Distance from Evaluated Stream Datance from Evaluated Stream NRCS Soil Map Page: NRCS	QHEI PERFORMED? Yes No QHEI Score (If Yes.	. Attach Completed QHEI form)
NRCS Soil Map Page:	NRCS Soil Map PageNRCS Soil Map PageNRCS Soil Map Stream Order	BLWWH Name: DYUSH CILCL	Distance from Evaluated Stream
MISCELLAREOUS  Passe Flow Conditions? (Y/N)	MISCELLAREOUS  Photo-documentation Notes  Elevated Turbidity? (Y/N):	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	D AREA. CLEARLY MARK THE SITE LOCATION.
MISCELLAREOUS  Passe Flow Conditions? (Y/N)	MISCELLAREOUS  Photo-documentation Notes  Elevated Turbidity? (Y/N):	USGS Quadrangle Name: NRCS Soil Map Pag County: MUSK I NQUANCO Township/City:	NRCS Soil Map Stream Order:
Canopy (% open):    Canopy (% open):   Canopy (% op	Canopy (% open):  Canoductivity (umhos/cm)  Canoductivity (umh	MISCELLANEOUS	
Canopy (% open):   Q\	Canopy (% open):    Canopy (% open):   Q()	1	Quantity:
Lab Sample \$ or ID (attach results):	Lab Sample % or ID (attach results):		
BIOLOGICAL OBSERVATIONS (Record all observed? (Y/N) Species observed (if known):  salamenders Observed? (Y/N) Species observed (if known):  Species observed (if known):	BIOLOGICAL OBSERVATIONS (Record all observed? (Y/N) Species observed (if known):  Species observ		
BIOLOGICAL OBSERVATIONS (Record all observations below)  Species observed (if known):  Species o	BIOLOGICAL DBSERVATIONS (Record all observations below)  Fish Observed? (Y/N) Species observed (if known):  Species observed (		
BIOLOGICAL OBSERVATIONS (Record all observations below)  (rigs or Tadpoles Observed? (Y/N)  Species observed (if known): (salamanders Observed? (Y/N)  Species	BIOLOGICAL OBSERVATIONS  (Record all observations below)  Firsh Observed? (Y/N) Species observed (if known):  Firegs or Tadpoles Observed? (Y/N) Species observed (if known):  Galamanders Observed? (Y/N) Species observed (if known):  Species observed (if known):  Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Tyansmission Line Row Open Feel Shrukan	2	
BIOLOGICAL OBSERVATIONS (Record all observations below)  iish Observed? (Y/N) Species observed (if known):  iisamanders Observed? (Y/N) Species observed (if known):  Industrial Macroinvertebrates Observed? (Y/N) Specie	BIOLOGICAL OBSERVATIONS (Record all observations below)  Fish Observed? (Y/N) Species observed (if known):  Grags or Tadpoles Observed? (Y/N) Species observed (if known):  Grags or Tadpoles Observed? (Y/N) Species observed (if known):  Grags or Tadpoles Observed? (Y/N) Species observed (if known):  Grags or Tadpoles Observed? (Y/N) Species observed (if known):  Gransments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmits Line Rdw (Spen field)  Shrullay		
(Record all observations below)  (ish Observed? (Y/N)  Species observed (if known):  (islamanders Observed? (Y/N)  Species obs	(Record all observations below)  Species observed (if known):  Species observed (if known):  Salamanders Observed? (Y/N)  Species observed (if known):  Squatic Macroinvertebrates Observed? (Y/N)  Species observed (if known):  Somments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Showing	Additional comments/description of pollution impacts:	
Species observed (if known):  irogs or Tadpoles Observed? (Y/N)  Species observed (if known):  islamanders Observed? (Y/N)  Species observed (if known):  Industrial Species observed (if known):  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shruway	Species observed? (Y/N) Species observed (if known):    Species observed? (Y/N)   Species observed (if known):   Species observed? (Y/N)   Species observed (if known):   Species observed? (Y/N)   Species observed (if known):   Species observed? (Y/N)   Species observed (if known):   Species observed? (Y/N)   Species observed (if known):		
Species observed (If known):  Species observed (If known):  Squatic Macroinvertebrates Observed? (Y/N) Species observed (If known):  Somments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shruway	Species observed? (Y/N) Species observed (If known):  Aquatic Macroinvertebrates Observed? (Y/N) Species observed (If known):  Comments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shruway	An exercit	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Roly chanfield  Shrukar	DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Rdu Johan Feld Shruday	rogs or Tadpoles Observed? (Y/N) Species observed (if known):	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shrusay	DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field Shruday		
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field Shruday	DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field Shrullar	equatic Macroinvertebrates Observed? (Y/N) Species observed (if known);	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shrullar	Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Rdu Jopen field Shrullay	omments Regarding Biology:	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shrullar	Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row open field  Shrullay		
511100000	SITIONARY	Include important landmarks and other features of interest for site evaluation	n and a narrative description of the stream's location
ow	ow		Shruday
ow	ow		
		ow ow	

Chia Environmental Proposition Agency	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	OL.
LENGTH OF STREAM READATE 5/20/20 SCI	RIVER BASIN DYSTOCK RIVER CODE SUPPLIFICATIONS: RIVER MILE COMMENTS SO25  RIVER BASIN DYSTOCK RIVER CODE SUPPLIFICATIONS: RIVER MILE COMMENTS SO25  RIVER MILE COMMENTS SO25  RECOVERING RECENT OR NO	ructions
(Max of 32). Add to TYPE  BLDR SLABS [ BOULDER (>25 BEDROCK [16] COBBLE (65-25 GRAVEL (2-64 SAND (<2 mm) Total of Percent Bidr Slabs, Boulder, (	TYPE   PERCENT   PERCENT	HHEI Metric Points Substrate Max = 40  A + 8
	Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    5 cm - 10 cm [15 pts]   < 5 cm [5pts]	Pool Depth Max = 30
	H (Measured as the average of 3 - 4 measurements) (Check ONL Y one box):  [30 pts]	Bankfull Width Max=30
	This information must also be completed	
RIPARIAN  L R (Per Ba  Wide >10  Moderate  Narrow < None  COMMENTS	Dm	
Stream Flow Subsurface t COMMENTS SINUOSITY None 0.5	flow with isolated pools (interstitial)  Dry channel, no water (ephemeral)  (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  1.0 2.0 3.0 1.5 2.5 3	)
STREAM GRADIEN	Flat to Moderate   Moderate   2 %100 %   Moderate to Severe   Severe   10 %100	A)

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHE! Score (If Yes, Attach Completed QHE! form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Page: \_\_\_\_\_\_ NRCS Soil Map Stream Order:\_\_\_\_\_ USGS Quadrangle Name: \_\_\_ \_\_\_\_\_Township/City:\_\_\_\_\_ MISCELLANEOUS Date of last precipitation: 5 20 20 Quantity: 50" Base Flow Conditions? (Y/N):\_\_ Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_\_ Were samples collected for water chemistry? (Y/N): Lab Sample # or □ (attach results): \_\_\_\_\_\_ Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) is the sampling reach representative of the stream (Y/N) \_\_\_\_\_\_ If not, explain: \_\_\_\_\_ Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) Species observed (if known): Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location - Transmission Liu Row -

hio	Primary Hea	adwater Hab	itat Field Evalu	uation Form n of metrics 1+2+3)	37
	RIVER BASIN BREACH (ft) L SCORER KLV tems On This Form -	AT 29.78 ST COMMENTS Refer to "Field Eva	S026 Ranual for Ohio	OGRAINAGE AREA (MF)	structions
(Max of 32). Ad  TYPE  BLDR SLAE BOULDER BEDROCK COBBLE (6 GRAVEL (2 SAND (<2 n  Total of Per Bidr Slabs, Bould	d total number of significal PER   P	ant substrate types fou	ck ONLY two predominants nd (Max of 8). Final metric s SLT [3 pt] LEAF PACK/WOODY DEE FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]  TOTAL NUMBER OF S	PERCENT  RIS [3 pts]	HHEI Metric Points Substrate Max = 40
	on. Avoid plunge pools fr [20 pts] 30 pts]		5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST	(ONLY one box):	Pool Depth Max = 30
> 4,0 meters (> 3,0 m - 4.0 m (	· ·	average of 3 - 4 meas	**surements) (Check ON:  > 1.0 m -1.5 m (> 3' 3' -  ≤ 1.0 m (≤ 3' 3")[5 pts]  AVERAGE BANKFL		Bankfull Width Max=30
-		This information	mustaiso be completed		
RIPAR L R (Pe □ Wide □ Mode	IAN WIDTH r Bank) >10m rate 5-10m w <5m	FLOODPLAIN L R Mature Fore	QUALITY (Most Predomin L st, Wetland [ prest, Shrub or Old Field [ Park, New Field [	nt (R) as looking downstream nant per Bank) R Conservation Tillage Urban or industrial Open Pasture, Row C Mining or Construction	гор
Stream F Subsurfa COMMEN SINUOS None 0.5 STREAM GRAI	ce flow with isolated pools TS  ITS (Number of bends pe	s (interstitial)	Moist Channel, is Dry channel, no voinel) (Check ONLY one both 2,0 2,5	3,0 33	<b>-</b> :

QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S)	
Distance from Evaluated Stream  CWH Name:  Distance from Evaluated Stream	
☐ EWH Name: Distance from Evaluated Stream ☐ EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	_
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:	-
county: MUSKINGUMCO. Township/City:	<u>-</u> -
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation: 5/20/20 Quantity: .50"	
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (% open): 90 (	
Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
is the sampling reach representative of the stream (Y/N) If not, explain:	_
	_
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS	-
(Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	_
Frogs or Tadpoles Observed? (Y/N) N Species observed (If known):	
Salemenders Observed? (Y/N) Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):	-
Comments Regarding Biology:	_
	_
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	$\lambda$
Transmission line Row openfield	, )
FLOW	$\sim$
4 Fores	steel <
	)

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October 2015 Revision

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	27
SITE NAME/LOCATION	tructions
1. SUBSTRATE (Estimate percent of every type present), Check ONL Y two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] SLT [3 pt]  BEDROCK [16 pts] SLAP PACKWOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A)  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	MHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]   > 1.0 m - 1.5 m (> 3' 3' - 4' 8*) [15 pts]     > 3.0 m - 4.0 m (> 9' 7'- 13') [25 pts]   ≤ 1.0 m (≤ 3' 3') [5 pts]     > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Benkfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY + NOTE: River Left (L) and Right (R) as looking downstream+	
RIPARIAN WIDTH  L R (Per Bank)  L R  Wide > 10m  Mature Forest, Wetland  Immature Forest, Shrub or Old Field  Warrow < Sm  None  COMMENTS  FLOODPLAIN QUALITY (Most Predominant per Bank)  L R  L R  Conservation Tillage  Immature Forest, Shrub or Old Field  Open Pasture, Row Cro  Mining or Construction	op 2
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermitter Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0   3.0   0.5   1.5   2.5   3  STREAM GRADIENT ESTIMATE	nt)
☐ Flat ios ₹100 ₹ ☐ Flat to Moderate ☑ Moderate 2 ₹100 ₹ ☐ Moderate to Severe ☐ Severe 10 ₹10	00 %:

1	QHEI PERFORMED?   Yes   No QHE! Score (If Y	es, Attach Completed QHEI form)
	DOWNSTREAM DESIGNATED USE(S)	
MWH I	Name: Brush Cree K	Distance from Evaluated Stream
	Name:Name:	
<u> </u>	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERS	
USGS Qui	uadrangle Name: NRCS Soil Map F	
County:	MUKINGHAM CO. TOWNShip/City:	
	MISCELLANEOUS	
Base Flow	w Conditions? (Y/N) Date of last precipitation: 5/20/2	Quantity: 650"
	cumentation Notes	
Elevated T	Turbidity?(Y/N): Canopy (% open): LOC.	
Were sam	nples collected for water chemistry? (Y/N): Lab Sample #	f or D (attach results):
Field Meas	sures:Temp (°C) Dissolved Oxygen (mg/l) pH (	(S.U.) Conductivity (umhos/cm)
is the sam	npling reach representative of the stream (Y/N) If not, explain: _	
Additional	comments/description of pollution impacts:	
	BIOLOGICAL OBSERVATIONS	
Fish Ohno	(Record all observations below)  Species observed (if known):	
	Fadpoles Observed? (Y/N) Species observed (if known):	
	ers Observed? (Y/N) Species observed (if known):	
Aquatic Ma	acroinvertebrates Observed? (Y/N) Species observed (if know	(n) <u>.</u>
Comments	s Regarding Biology:	
	DRAWING AND NARRATIVE DESCRIPTION OF STR	
	Include important landmarks and other features of interest for site evalua-	tion and a narrative description of the stream's location
	Transmission live Row	> 1 < 1 <
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LOW		
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		Hoverton

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Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3	59
SITE NAME/LOCATION	r Instructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & & TYPE	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max-30
This information <u>must</u> also be completed	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY • NOTE: River Left (L) and Right (R) as looking downstres  RIPARIAN WIDTH  (Per Bank)  L R  Wide > 10m  Mature Forest, Wetland  Mederate 5-10m  Immature Forest, Shrub or Old Field  Viban or Industrial  Residential, Park, New Field  Open Pasture, Roy  None  COUNTENTS	e 
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (inter- Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):    None   1.0   2.0   3.0   0.5   1.5   2.5   >3	militent)
STREAM GRADIENT ESTIMATE  Flat 105 thm to Moderate Moderate to Severe Severe Severe	10 \$100 \$

QHEI PERFORMED? TYES No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED, USE(S)	
Distance from Evaluated Stream	
CWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:	
County: Muskingum Co. Township/City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (% open):	
Were samples collected for waterchemistry? (Y/N): \( \) Lab Sample # or \( \mathbb{D} \) (attach results): \( \)	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	_
is the sampling reach representative of the stream (Y/N) If not, explain;	
Additional comments/description of pollution impacts.	
BIOLOGICAL OBSERVATIONS	
(Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) Species observed (if known);	
Salamanders Observed? (Y/N) Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed	0)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	
7	)
Transmission Line Kow Forested	
Transmission Line Roll Shrubby forest	
Sillow. To	
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October 2018 Revision

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION CYCLOSVILL Philo SITE NUMBER RIVER BASIN PAUSINCYCL RIVER CODECONOMINAGE AREA (MF) _ LENGTH OF STREAM REACH (ft) LAT 31.779047 LONG -82.0335.75 RIVER MILE _ DATE 5/20/20 SCORER COMMENTS S029  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Items on This Form - Refer to "Field Evaluation Manu	
STREAM CHANNEL MODIFICATIONS: NONE NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  SLT [3 pt]  BLDR SLABS [16 pts]  BEDROCK [16 pts]  COBBLE (82-256 mm) [12 pts]  COBBLE (85-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  SAND (<2 mm) [6 pts]  ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation, Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
COMMENTS MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONL Yone box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 5	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY • NOTE: River Left (L) and Right (R) as looking downstream	
RIPARIAN WIDTH    R   Per Bank     R     L   R     L   R	Crop in
COMMENTS	_

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Tyes No QHE! Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) WWH Name:\_\_\_\_\_\_\_Distance from Evaluated Stream \_\_\_\_\_\_ Distance fromEvaluated Stream CWH Name: Distance from Evaluated Stream EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order: Muskingum Co. Township/City. MISCELLANEOUS Base Flow Conditions? (Y/N)\_ Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 75 (. Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) \_\_\_\_\_ is the sampling reach representative of the stream (Y/N) \_\_\_\_\_ If not, explain: \_\_\_\_\_\_ Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) \_\_\_\_\_ Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) Species observed (if known); Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):

DRAWING AND NARRATIVE DESCRIPTION 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

Transmission Line ROW (spenfield (shrubby

FLOW

Comments Regarding Biology:

SITE NUMBER  RNER BASN MUSTICIPED (RIVER CODE)  SITE NUMBER  RNER BASN MUSTICIPED (RIVER CODE)  SORR NUMBER  RNER BASN MUSTICIPED (RIVER CODE)  RNYER MLE  LENGTH OF STREAM REACH (II)  LENGTH OF STREAM REACH (II)  SCORR COMMENTS  SO30  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions  STREAM CHANNEL MODIFICATIONS: MONE/NATURAL CHANNEL   RECOVERED   RECOVERING   RECENT OR NO RECOVERY  1. SUBSTRATE (Estimate percent of every type present), Check ONL Y (Ix) predominant substrate TYPE boxes.  (Max of 32), Add total number of significant substrate types found (Max of 3). Final metric score is sum of boxes a. B. PEBCENT TYPE  BLDR SLABS (16 pts)   SLT   Dpt   BLDR SLABS (16 pts)   PRE DETRITUS   Dpt   CRAYLE (2-84 mm) (9 pts)   SL   Dpt   SAND (2-87 mm) (6 pts)   SL   Dpt   SAND (2-87 mm) (6 pts)   SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SL   Dpt	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	24
Max of 322, Add total number of significant substrate types found (Max of 3). Final metric score is sum of blookes A 8   Final metric score is sum of bl	SITE NUMBER RIVER BASIN BYUS OF COMMENTS CODE COMMENTS AREA (MIF)  LENGTH OF STREAM REACH (II)  LAT 31. TO SCORE LONG 82.030 RIVER MILE  DATE 520 COMMENTS S030  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for	Instructions
	(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  SAND (<2 mm) [6 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  (A)  (B)	Metric Points Substrate Max = 40
> 4.0 meters (> 13') [30 pts]	time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downstreams  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R L R  Wide >10m Mature Forest, Wetland Conservation Tillage  Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial  Narrow <5m Residential, Park, New Field Open Pasture, Row Crop  None Residential, Park, New Field Open Pasture, Row Crop  Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitlat) Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  0.5 1.5 2.5 3.0  STREAM GRADIENT ESTIMATE	> 4.0 meters (> 13') [30 pts]	Width
RIPARIAN ZONE AND FLOODPLAIN QUALITY   NOTE: River Left (L) and Right (R) as looking downstream  RIPARIAN WIDTH   (Per Bank)	Notice that the state of the st	
R   (Per Bank)	·	34
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitlal)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0  0.5   1.5   2.5   >3  STREAM GRADIENT ESTIMATE	L R (Per Bank) L R L R  Wide >10m	
Flat paintness Flat to Moderate Moderate 2 1/20 1 Moderate to Severe Severe Severe 10 1/20 1	FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermi Subsurface flow with isolated pools (interstitlat)   Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0  0.5   1.5   2.5   >3  STREAM GRADIENT ESTIMATE	

## ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? | Yes | No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream Distance from Evaluated Stream WWH Name: CWH Name: ☐ EWH Name: \_\_\_\_ Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA, CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Page: \_\_\_\_\_NRCS Soil Map Stream Order:\_\_\_\_\_ USGS Quadrangle Name: \_\_\_ County: Muskingum CO. Township/City: MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: 5/20/20 Quantity: .50" Photo-documentation Notes: Elevated Turbidity?(Y/N): Canopy (% open): 80 ( Were samples collected for water chemistry? (Y/N): \_\_\_\_\_\_\_\_\_ Lab Sample # or ID (attach results):\_\_\_\_\_\_ Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) \_\_\_\_\_ is the sampling reach representative of the stream (Y/N) \_\_\_\_\_ If not, explain; Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) \_\_\_\_\_ Species observed (if known);\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) Species observed (If known): Salamanders Observed? (Y/N) \_\_\_\_\_ Species observed (if known);\_\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location' Transmission Live ROW-

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Primary Headwater Ha	bitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)				
SITE NAME/LOCATION CYOUS VILL, Phild SITE NUMBER RIVER BASIN DYSTACTICLE RIVER CODECO HOW YOUR ANAGE AREA (MIF)  LENGTH OF STREAM REACH (#) LAT31, 755 70 LONG 82,03882 RIVER MILE  DATE 5 20 70 SCORER COMMENTS SO31  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions  STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY					
1. SUBSTRATE (Estimate percent of every type present). Ch (Max of 32). Add total number of significant substrate types for TYPE  BLDR SLABS [16 pts] BOULDER (*256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:					
2. Maximum Pool Depth (Measure the maximum pool depth time of evaluation. Avoid plunge pools from road culverts or si > 30 centimeters [20 pts]	within the 61 meter (200 feet) evaluation reach at the torm water pipes) (Check ONLY one box):  5 cm - 10 cm [15 pts]  < 5 cm [5pts]  NO WATER OR MOIST CHANNEL [0pts]  MAXIMUM POOL DEPTH (centimeters):				
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measuredas	asurements) (Check <i>ONL</i> Yone box):  > 1.0 m - 1.5 m (> 3' 3' - 4' 8")[15 pts]  ≤ 1.0 m (≤ 3' 3")[5 pts]  AVERAGE BANKFULL WIDTH (meters) 3'				
	mustalso be completed				
RIPARIAN WIDTH	Forest, Shrub or Old Field  Urban or Industrial , Park, New Field Open Pasture, Row Crop				
FLOW REGIME (At Time of Evaluation) (Check ONL Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of chall not be a comment of the c	Moist Channel, isolated pools, no flow (intermittent)  Dry channel, no water (ephemeral)				
Flat to Moderate Moderate 2 200	ক Moderate to Severe Severe াও কণতে ক				

# ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes. Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream ☐ EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Page. \_\_\_\_\_NRCS Soil Map Stream Order: \_\_\_\_\_ USGS Quadrangle Name: \_ Muskingum Co. Township/City:\_\_ MISCELLANEOUS Base Flow Conditions? (Y/N) Date of last precipitation: 5/20/20 Quantity: 501 Photo-documentation Notes Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) \_\_\_\_\_ Is the sampling reach representative of the stream (Y/N) \_\_\_\_\_\_ If not, explain: \_\_\_\_\_\_ Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) \_\_\_\_\_ Species observed (if known);\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) Species observed (if known); Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) IVANDWISSIAN Include important landmarks and other features of interest for site evaluation and a narrative description of the stream a location Line Roh

SITE NAMELICATION   VOICE   PACE BASN   CITED   PACE BASN   CITED	Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+	
Max of 32), Add datal number of significant substrate types found (Max of 8). Final metric score is sum of boxes & 8. B   Metric	SITE NUMBER RIVER BASIN RIVER CODE CONTROL OF STREAM REACH (II) LAT LONG 82.02885	s" for Instructions
Scar - 10 cm [15 pts]	(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes  TYPE	Metric Points Substrate Max = 40
> 4.0 meters (>13') [30 pts]	time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Max = 30
RIPARIAN WIDTH (Per Bank)  RIPARIAN WIDTH (Most Predominant per Bank)  RIPARIAN WIDTH (Most Predomina	> 4.0 meters (> 13') [30 pts]   > 1.0 m − 1.5 m (> 3' 3' −4' 8') [15 pts]   > 3.0 m − 4.0 m (> 9' 7"−13') [25 pts]   ≤1.0 m (≤ 3' 3') [5 pts]   > 1.5 m − 3.0 m (> 4' 8" −9' 7') [20 pts]	Width Max=30
RIPARIAN WIDTH L R (Per Bank) L R  Wide > 10m Mature Forest, Wetland Immature Forest, Shrub or Old Field Wide > 10m Narrow < 5m Residential, Park, New Field Open Pasture, Row Crop Fenced Pasture  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (interstitial)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None  1.0 2.0 3.0 3.5  STREAM GRADIENT ESTIMATE		
STREAM GRADIENT ESTIMATE	RIPARIAN WIDTH  RIPARIAN WIDTH	Tillage estrial e, Row Crop estruction
	STREAM GRADIENT ESTIMATE	vere  10 \$100 \$

QHEI PERFORMED? TYES No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)  WWH Name: Distance from Evaluated Stream  Distance from Evaluated Stream
☐ EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: MUSKINGUM CO. Township/City:
MISCELLANEOUS
Base Flow Conditions? (Y/N) Date of last precipitation: 5/20/20 Quantity: 5011
Photo-documentation Notes
Elevated Turbidity?(Y/N): N Canopy (% open): 50 (.
Were samples collected for water chemistry? (Y/N): Lab Sample # or ſD (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) Species observed (if known);
Salamanders Observed? (YfN) Species observed (if known);
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Transmission Line Row
1 Foresteel 1
FLOW
Pallingt
Wether

Page 2

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION CYOKSVILLE, POID  SITE NUMBER RIVER BASIN COUNTY CODE DRAINAGE AREA (mir) _  LENGTH OF STREAM REACH (ft) LAT 21, 773401 LONG 82, 04(984 RIVER MILE _  DATE 5 2 2 0 SCORER CO COMMENTS S033  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE	HHEI Metric Points Substrate Max = 40  A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box).    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]   > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]   NO WATER OR MOIST CHANNEL [0pts]	Pool Depth Max = 30
COMMENTS MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]   > 1.0 m - 1,5 m (> 3' 3' - 4' 8') [15 pts]   > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts]   ≤ 1.0 m (≤ 3' 3') [5 pts]   > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FŁOODPŁAIN QUALITY - + NOTE: River Left (L) and Right (R) as looking downstream.	
RIPARIAN WIDTH  L R (Per Bank)  L R  Mature Forest, Wetland Conservation Tillage    Moderate S-10m   Immature Forest, Shrub or Old Field   Urban or Industrial    Narrow < 5m   Residential, Park, New Field   Open Pasture, Row C    None   Fenced Pasture   Mining or Construction	rop
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermitt)   Dry channel, no water (ephemeral)  COMMENTS   COMMENTS   Comment   Comment	ent)
None	
ু Flat ্ড চলত বা Flat to Moderate Zপতে বা Moderate to Severe Severe নত ব	100 8

Distance from Evaluated Stream MapPing: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.  SGS Quadrangle Name NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City. MISCELLANEOUS ase Flow Conditions? (Y/N)  Date of last precipitation: Date of last precipitation.  MISCELLANEOUS  ase Flow Conditions? (Y/N)  Date of last precipitation: Date of last precipitation.  Canopy (% open): Date of last precipitation.  Lab Sample \$ or D (attach results):  Include ampling reach representative of the stream (Y/N)  Hr not, explain:  Miscell Measures: Temp (*C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (umhos/cm)  In the sampling reach representative of the stream (Y/N)  Hr not, explain:  Miscellaneous and observations below:  Species observed (if known):  Miscellaneous and observations below:  Species observed (if known):  Miscellaneous and observations below:  Species observed (if known):  Miscellaneous and observations below:  Miscellaneous and observations below:  Datacher from Evaluated Stream  NRCS Soil Map Page: NRC	QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach	Completed QHEI form)
Owth Name	DOWNSTREAM DESIGNATED USE(S)	Annua from Evaluated Chann
Datance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.  SOS Quadrangle Name	T CWH Name: Dis	tance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.  SOS Quadrangle Name		
ounty: Muskingum (○ Township/cty:  MISCELLANEOUS  ase Flow Conditions? (*/N):		
ase Flow Conditions? (Y/N)	USGS Quadrangle Name: NRCS Soil Map Page:	NRCS Soil Map Stream Order:
ase Flow Conditions? (Y/N)		
Canopy (% open):   BOT	U	
Lab Sample * or ID (attach results):   Lab Sample * or	Base Flow Conditions? (Y/N): Date of last precipitation: 5/21/20	Quantity: 150/
Lab Sample * or ID (attach results):  Lab Sample * or ID (attach results):  Leid Measures. Temp (*C)	Photo-documentation Notes	
Lab Sample * or ID (attach results):  Lab Sample * or ID (attach results):  Leid Measures. Temp (*C)	(levated Turbidity?(Y/N): Name Canopy (% open): 801.	
diditional comments/description of pollution impacts:    Biological Observations   Record all observations below	Vere samples collected for water chemistry? (Y/N): Lab Sample # or ID (att.	ach results):
BIOLOGICAL OBSERVATIONS  (Record all observations below)  sh Observed? (Y/N) Species observed (if known):  page or Tadpoles Observed? (Y/N) Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N) Species observed (if known):  proments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Rown  approx Shrway fically	field Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (umhos/cm)
BIOLOGICAL OBSERVATIONS (Record all observations below)  sh Observed? (Y/N) Species observed (if known):  plananders Observed? (Y/N) Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N) Species observed (if known):  priments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream location  Transmission Line Row  open Shrwby fixed	s the sampling reach representative of the stream (Y/N) If not, explain;	
BIOLOGICAL OBSERVATIONS (Record all observations below)  sh Observed? (Y/N) Species observed (if known):  plananders Observed? (Y/N) Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N) Species observed (if known):  priments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream location  Transmission Line Row  open Shrwby fixed		
(Record all observations below)  sh Observed? (Y/N)  Species observed (if known):  rogs or Tadpoles Observed? (Y/N)  Species observed (if known):  slamanders Observed? (Y/N)  Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N)  Species observed (if known):  priments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  open Shrubay fixed	Additional comments/description of pollution impacts:	
(Record all observations below)  sh Observed? (Y/N)  Species observed (if known):  rogs or Tadpoles Observed? (Y/N)  Species observed (if known):  slamanders Observed? (Y/N)  Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N)  Species observed (if known):  priments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  open Shrubay fixed		
sh Observed? (Y/N)  Species observed (if known):  plasmanders Observed? (Y/N)  Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N)  Species observed (if known):  priments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream clocation  Transmission Line Row  open Shrubby ficula		
plananders Observed? (Y/N) Species observed (if known):  quatic Macroinvertebrates Observed? (Y/N) Species observed (if known):  purments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)  Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  open Shtwby ficula		
priments Regarding Biology:  DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream location  Transmission Line Row  apen Shrubbay fixed	rnns nr Tednoles Observed (V/bi) Species observed (If known)	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream clocation  Transmission Line Row  open Shrubby ficula		
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line Row  open Shrubbay ficular	. 1	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream allocation  Transmission Line Row  open Shrwbay ficial	equatic Macroinvertebrates Observed? (Y/N) Species observed (if known):	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line ROW  open shrubby field	omments Regarding Biology:	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location  Transmission Line ROW  open shrubby field		
Transmission Line ROW open shrubbay field	DRAWING AND NARRATIVE DESCRIPTION OF STREAM RI	EACH (This must be completed)
wire the second of the second	Include important landmarks and other features of interest for site evaluation and a	narrative description of the stream's location
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SITE NAME/LOCATION CYOUKS VILL Phild  SITE NUMBER RIVER BASIN RIVER CODE 050400040674804 AREA (MF) LENGTH OF STREAM REACH (N) LAT 39,767746 LONG 22,050776 RIVER MILE	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL MODIFICATIONS: NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER	
1. SUBSTRATE (Estimate percent of every type present), Check ONL Y two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  SLT [3 pt]  BLDR SLABS [16 pts]  BEDROCK [16 pts]  COBBLE (85-256 mm) [16 pts]  GRAVEL (2-64 mm) [9 pts]  GRAVEL (2-64 mm) [9 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  Bedrock [A]  MAX of 8). Final metric score is sum of boxes A & B  Metric  Points  Substrain  Metric  Cobble (65-256 mm) [12 pts]  MUCK [0 pts]  ARTIFICIAL [3 pts]  MUCK [0 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  (A)  A + B	ic S
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box).  30 centimeters [20 pts]   S cm - 10 cm [15 pts]   S cm - 1	
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	1
This information must also be completed	
RIPARIAN WIDTH  RIPARIAN WIDTH	
STREAM GRADIENT ESTIMATE  [ Flat no স্বাত হা	

QHEI PERFORMED? TYES No QHE! So	pre (If Yes, Attach Completed QHE) form)
DOWNSTREAM DESIGNATED USE(S)	
XWWH Name: TKhun	Distance from Evakuated Stream
CAN Name:	Distance from Evaluated Stream  Distance from Evaluated Stream
	OF THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
	NRCS Soil Map Page: NRCS Soil Map Stream Order:
Country Maran Co.	Township/City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N) Date of last preci	pitation: 5 21 70 quantity: .50"
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): Canopy (% open	501.
Were samples collected for waterchemistry? (Y/N):	Lab Sample # or € (attach results):
Field Measures:Temp (*C) Dissolved Oxygen (	mg/l) pH (S.U.) Conductivity (umhos/cm)
	If not, explan:
	CAL OBSERVATIONS all observations below)
	wn):
Frogs or Tadpoles Observed? (Y/N) Species obs	erved (if known);
	L(if known);
111	cies observed (if known):
Comments Regarding Biology:	
II.	
	RIPTION OF STREAM REACH (This must be completed)
	of interest for site evaluation and a narrative description of the stream's location
Forestal Tra	nomission line ROW
FLOW	
	Frolok
\ 2)	( rowney)
9	

Page 2

STE NAMELOCATION	One Environmental Process County of Metrics 1+2+3	27
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL   RECOVERED   RECEVERING   RECEVER OR NO RECOVERY  1. SUBSTRATE (Eastimate percent of every type present), Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 35). Final metric score is sum of boxes A & B PERCENT   TYPE   SLT [3 pt]   PERCENT   PERCE	SITE NUMBER RIVER BASIN 05040004050 2 RIVER CODE DRAINAGE AREA (mif) LENGTH OF STREAM REACH (ft) LAT 37.7167071 LONG 82.0565123 RIVER MILE	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add lotal number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & 8. PERCENT TYPE    BLDR SLABS [46 pts]	NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" fo	r Instructions
Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A 8   Metric Pressor	STREAM CHANNEL MODIFICATIONS: None / Natural Channel RECOVERED RECOVERING RECENT	OR NO RECOVERY
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box).  3. Ocenthineters (20 pts)   5 cm - 10 cm (15 pts)   7 cm (15 pts)	(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & 8. TYPE    BLDR SLABS [16 pts]	Metric Points Substrate Max = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes)		2
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    3.0 m + 4.0 meters (> 13') [30 pts]	time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	
> 4.0 meters (> 13') [30 pts]		Bankfull
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R  Wide > 10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Field Urban or industrial Open Pasture, Row Crop None Residential, Park, New Field Open Pasture, Row Crop Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  O.5 1.5 2.5 3  STREAM GRADIENT ESTIMATE		
RIPARIAN ZONE AND FLOODPLAIN QUALITY   NOTE: River Left (L) and Right (R) as looking downstream+  RIPARIAN WIDTH	→ 3,0 m - 4.0 m (> 9°7′-13′) [25 pts] ≤ 1.0 m (≤ 3′3′) [5 pts]	
RIPARIAN WIDTH  L R (Per Bank)  L R  Wide > 10m  Mature Forest, Wetland    Conservation Tillage   Immature Forest, Shrub or Old Field   Urban or industrial     Narrow < 5m	> 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts]   ≤ 1.0 m (≤ 3' 3') [5 pts]   > 1.5 m - 3.0 m (> 4' 8" - 9' 7') [20 pts]   2	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0  0.5   1.5   2.5   >3  STREAM GRADIENT ESTIMATE	> 3.0 m - 4.0 m (> 9° 7° - 13°) [25 pts]	Max=30
STREAM GRADIENT ESTIMATE	> 3.0 m - 4.0 m (> 9' 7'-13') [25 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \leq 1.0 m \) (< 3' 3') [5 pts]   \( \l	Max=30
	> 3.0 m - 4.0 m (> 9 7'-13') [25 pts]  > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts]  COMMENTS  AVERAGE BANKFULL WIDTH (meters)  This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY → NOTE: River Left (L) and Right (R) as looking downstre  RIPARIAN WIDTH  L R (Per Bank)  L R (Per Bank)  Wide > 10m	Max=30
	> 3.0 m - 4.0 m (> 9'7'-13')[25 pts] > 1.5 m - 3.0 m (> 4'8'-9'7')[20 pts]    This information must also be completed   RIPARIAN ZONE AND FLOODPLAIN QUALITY   NOTE: River Left (L) and Right (R) as looking downstre	Max=30

QHEI PERFORMED? Yes No QHE! Score	(If Yes. Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream	
CWH Name:	Distance from Evaluated Stream	-
EVVH Name:	Distance from Evaluated Stream	
	RE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name NRCS County: Townsh	Soil Map Page: NRCS Soil Map Stream Order:	
County Mygan Townsh	nip/City:	
MISCELLANEOUS	le la	
Base Flow Conditions? (7/N): Date of last precipitation:	5/21/20 Quantity: .50"	
Photo-documentation Notes		
Elevated Turbidity?(Y/N): Canopy (% open): 50	<u> </u>	
Were samples collected for water chemistry? (Y/N): La	b Sample # or € (attach results):	
Field Measures:Temp (FC) Dissolved Oxygen (mg/l)		
s the sampling reach representative of the stream (Y/N) $\longrightarrow$ If not	; explain:	
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSER	2 MOT A VICE	
(Record all observation	ons below)	
Fish Observed? (Y/N) N Species observed (if known):		
frogs or Tadpoles Observed? (Y/N) N Species observed (if kno	own);	
Salamanders Observed? (Y/N) Species observed (if known);		
Aquatic Macroinvertebrates Observed? (Y/N) 1 Species observ	ed (if known):	
comments Regarding Biology:		
	· · · · · · · · · · · · · · · · · · ·	
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This must be completed)	<del>-</del> /
	r site evaluation and a narrative description of the stream's location	
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( / / /	) (Foresteel)	1
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hio One Enventuenal Projection Agracy	Primary H	eadwater Ha	bitat Field Eva HHEI Score (su	lluation Form um of metrics 1+2+3)	27
DATE 5 2 20  NOTE: Complete Al	REACH (ft) SCORER KUV	COMMENTS - Refer to "Field Ev	S035 LONG 82.C	DRAINAGE AREA (mif) RIVER MILE RIVER MILE Thio's PHWH Streams" for In RECOVERING RECENT OR	structions
(Max of 32).4  TYPE  BLDR SL  BOULDER  BEDROCK  COBBLE  GRAVEL  SAND (<2  Total of P  Bidr Slabs, Bou	idd total number of signif	FIGURE 10 STATE OF THE STATE OF	SLT [3 pt] LEAF PACKWOODY D FINE DETRITUS [3 pts CLAY OF HARDPAN [0 p MUCK [0 pts] ARTIFICIAL [3 pts]	EBRIS [3 pts]	HHEI Metric Points Substrate Max = 40
	ation. Avoid plunge pools ers [20 pts] [30 pts]		orm water pipes) (Che  5 cm - 10 cm [15 pts]  < 5 cm [5pts]  NO WATER OR MOIST		Pool Depth Max = 30
> 4.0 meters ( > 3.0 m - 4.0 m	WIDTH (Measured as the 13') [30 pts] in (> 9' 7'-13') [25 pts] in (> 4' 8" -9' 7") [20 pts]		> 1.0 m - 1.5 m (> 3° 3° ≤ 1.0 m (≤ 3° 3°) [5 pts	-4' 8")[15 pts]	Bankfull Width Max=30
COMMENTS		This information	mustalso be completed		
L R (F	RIAN WIDTH Per Bank) le > 10m derate 5-10m row <5m	FLOODPLA  L R  Mature For Immature F	OTE: River Left (L) and Ri N QUALITY (Most Predor est, Wetland orest, Shrub or Old Field Park, New Field	ight (R) as looking downstream	гор
Stream Subsur COMM SINUC	REGIME (At Time of Evi Flowing face flow with isolated po ENTS	ools (interstitial)	Moist Channel, no Dry channel, no innel) (Check ONLY one 2,0 2,5	3.0	

QHE! PERFORMED?   Yes No QHE! Score (If Yes, Attach Completed QHE! form)
DOWNSTREAM DESIGNATED USE(S)  Distance from Evaluated Stream
☐ CWH Name: Distance from Evaluated Stream ☐ EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
· ·
USGS Quadrangle Name NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City:
County: Township/City:
MISCELLANEOUS CALL
Base Flow Conditions? (Y/N) Date of last precipitation: 5/21/20 Quantity:
Elevated Turbidity?(Y/N): Canopy (% open): 90 .
Were samples collected for water chemistry? (Y/N):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS
(Record all observations below)
Fish Observed? (Y/N) N Species observed (if known)
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
( Transmission Line Row/open field )
Transmission Civa
TOWN TO THE TOTAL THE TOTAL TO THE TOTAL TOT

Phio	Primary Hea	adwater Ha	bitat Field Eva HHEl Score (s	aluation Forrum of metrics 1	
NOTE: Complete All	RIVER BASIN		S037 LONG 82.0	SIBCAL RIVER	A (mir)  MILE  ms <sup>n</sup> for Instructions  ECENT OR NO RECOVER
(Max of 32). A TYPE  BLDR SLA BOULDER BEDROCK COBBLE ( GRAVEL ( SAND (<2) Total of Pe	.8S [16 pta] (>256 mm) [16 pta]	int substrate types for CENT TYPE	SLT [3 pt] LEAF PACKWOODY DEFINE DETRITUS [3 pts CLAY or HARDPAN [0] MUCK [0 pts] ARTIFICIAL [3 pts]	pebris [3 pts]	Metric Points Substrate Max = 40
	[30 pts]		orm water pipes) (Che 5 cm - 10 cm [15 pts < 5 cm [5pts] NO WATER OR MOIS	eck ÖNLYane box): 1	Max = 30
> 4.0 meters (> > 3.0 m - 4.0 m	VIDTH (Measured as the: 13') [30 pts] (> 9' 7"-13') [25 pts] (> 4' 8" - 9' 7") [20 pts]	average of 3 - 4 mea	> 1.0 m - 1.5 m (> 3' 3' \) \( \le 1.0 m \) (< 3' 3') [5 pts	(-4' 8")[15 pts]	Bankfull Width Max=30
			mustalso be complete		
L R (P		FLOODPLAI	N QUALITY (Most Predo est, Wetland orest, Shrub or Old Field Park, New Field	minant per Bank) L R Conservation Urban or Inc	on Tillage dustriat ire, Raw Crop
FLOW Stream Subsurf COMME SINUO None 0.5 STREAM GRA	REGIME (At Time of Evaluation	r 61 m (200 ft) of cha 1.0 1.5	Moist Channel, no Dry channel, no nnet). (Check ONLY one 2.0 2.5	☐ 3;0 ☐ >3	
Flat 05 \$100 \$	Flat to Moderate	☐ Moderate 2 %100 %	Uloderate to	Severe S	evere 10 ବ୍ୟରର ବ୍

QHEI PERFORMED? Yes No	QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE	
WWH Name: KRUM	Distance from Evaluated Stream
C'WH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
	INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION,
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Margan Co	Township/City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N) Date o	flast precipitation: 5/21/20 Quantity: •50"
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy	y (% open): 50/.
Were samples collected for water chemistry? ()	Y/N): Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved	Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stre	am (Y/N) If not, explain;
Additional comments/description of pollution imp	pacts
-	
	BIOLOGICAL OBSERVATIONS
	(Record all observations below)
Fish Observed? (Y/N)	ved (if known):
Frogs or Tadpoles Observed? (Y/N) N Sr	pecies observed (if known)
Salamanders Observed? (Y/N) Species	s observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)	Species observed (if known):
Comments Regarding Biology:	
Commence regarding proving	
R()	
DRAWING AND NARRATIV	E DESCRIPTION OF STREAM REACH (This must be completed)
Include important landmarks and other	r features of interest for site evaluation and a narrative description of the stream's location
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()	
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6 1	[ Earles]
	Foresteel

Page 2

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	34
SITE NAME/LOCATION CYCLOS ALLO POLICE SITE NAME/LOCATION RIVER BASINGSO DOUGHOST RIVER CODE DRAINAGE AREA (mif) LENGTH OF STREAM REACH (II) LAT 31.7(17) LONG 82.057259 RIVER MILE DATE 52120 SCORER COMMENTS S038  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instrument Channel Recovered Recovering Recent Or	structions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY (wo predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] SLT [3 pt]  COBBLE (65-256 mm) [12 pts] SLT [3 pts]  COBBLE (65-256 mm) [12 pts] SAND (<2 mm) [9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL (3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A)  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]   > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]   > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]    COMMENTS   MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):  > 4,0 meters (> 13') [30 pts]  > 1.0 m - 1.5 m (> 3' 3' - 4' 8') [15 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   AVERAGE BANKFULL WIDTH (meters)	Bankfull Width Max=30
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY - a NOTE: River Left (L) and Right (R) as looking downstream.	
RIPARIAN WIDTH  (Per Bank)  L R  Wide >10m  Mature Forest, Wetland  Conservation Tillage  immature Forest, Shrub or Old Field  Narrow <5m  None  Fenced Pasture  COMMENTS  FLOW REGIME (At Time of Evaluation)  Flood Plasting (Most Predominant per Bank)  L R  L R  Conservation Tillage  immature Forest, Wetland  Conservation Tillage  immature Forest, Shrub or Old Field  Open Pasture, Row C  Mining or Construction  Check ONLY one box):	гор 1 —
Stream Flowing   Moist Channel, isolated pools, no flow (intermitt Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)	_

# ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Tyes No QHEI Score \_\_\_\_\_\_ (If Yes. Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) Name: Distance from Evaluated Stream ₩WH Name: Distance from Evaluated Stream Distance from Evaluated Stream

### CWH Name: ☐ EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION: NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order:\_\_\_\_\_ County: Township/City: MISCELLANEOUS Base Flow Conditions? (77N) Date of last precipitation: 5/21/20 quantity: 15011 Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 501 Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) is the sampling reach representative of the stream (Y/N) \_\_\_\_\_\_ If not, explain: \_\_\_\_\_\_\_ Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known); Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Institute important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

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Page 2

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	49
SITE NAME/LOCATION CYCLOSULU POLO SITE NUMBER RIVER BASIN 050 4000 4050 RIVER CODE DRAINAGE AREA (MF) _ LENGTH OF STREAM REACH (ft) LAT 39, 76519 LONG 32.057894 RIVER MILE _ DATE 5 21 20 SCORER KLV COMMENTS S040  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	
STREAM CHANNEL MODIFICATIONS: NONE NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present), Check ONLY two predominant substrate TYPE boxes.  (Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  PERCENT  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  GRAVEL (2-64 mm) [9 pts]  Bidr Slabs, Boulder, Cobble, Bedrock  Bidr Slabs, Boulder, Cobble, Bedrock  (A)  TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40  A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation, Avoid plunge pools from road curverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
□ > 4.0 meters (> 13') [30 pts]       □ > 1.0 m - 1.5 m (> 3' 3' - 4' 8') [15 pts]         □ > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts]       □ ≤ 1.0 m (≤ 3' 3') [5 pts]         □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY - NOTE: River Left (L) and Right (R) as looking downstream.	
RIPARIAN WIDTH  RESIDENT WIDTH  RESIDENT RES	гор
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermitt Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0   3.0   0.5   1.5   2.5   >3	ent)
STREAM GRADIENT ESTIMATE  Flat 10.5 \$100 \$1 Flat to Moderate   Moderate   2 \$100 \$1 Moderate to Severe   Severe 10 \$1	100 1

## ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Page: \_\_\_\_\_\_ NRCS Soil Map Stream Order:\_\_\_\_\_ USGS Quadrangle Name: MISCELLANEOUS Date of last precipitation: 5/21/20 Quantity: 501 Base Flow Conditions? (Y/N) Photo-documentation Notes: Elevated Turbidity?(Y/N) \_\_\_\_\_ Canopy (% open); \_\_\_\_\_\_ [... Were samples collected for water chemistry? (Y/N): \_\_\_\_\_\_\_\_\_ Lab Sample # or ID (attach results): \_\_\_\_\_\_\_ Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) is the sampling reach representative of the stream (Y/N) \_\_\_\_\_ If not, explain: \_\_\_\_\_\_ Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) \_\_\_\_\_ Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salemanders Observed? (Y/N) \_\_\_\_\_ Species observed (if known);\_\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the afream's logation. Transmissionline Row openfield

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION	estructions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] FNE DETRITUS [3 pts]  CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK (0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A)  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]     > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]     > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [6pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one bóx):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	-
This information <u>mustalso becompleted</u> RIPARIAN ZONE AND FLOODPLAIN QUALITY — NOTE: RiverLeft(L) and Right (R) as looking downstream	*
RIPARIAN WIDTH  R (Per Bank)  R (Per Bank)  R L R  L R  Conservation Tillage  I Mature Forest, Wetland  I Marrow <5m  None  Residential, Park, New Field  Open Pasture, Row C  Fenced Pasture  COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermit)  Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0  0.5   1.5   2.5   >3	ent)
STREAM GRADIENT ESTIMATE  Flat to Moderate   Moderate   2 2100 20   Moderate to Severe   Severe 10 4	1100 P)

QHEI PERFORMED? Yes No QHEI Score	(If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)	
XXWVH Name: Drykun	Distance from Evaluated Stream
CVM Name:	Distance from Evaluated Stream  Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle NameNRCS	Soil Map Page:NRCS Soil Map Stream Order:
County: Margan Co. Towns	híp/City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	3/21/20 Quantity (50"
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (% open):	·
Were samples collected for water chemistry? (Y/N):	ab Sample # or D (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N)	ot, explain
	(a) we copyrate to
Additional comments/description of pollution impacts:	
	THE STATE OF THE S
BIOLOGICAL OBSE (Record all observations)	
	NIPS DELVIES
Frogs or Tadpoles Observed? (Y/N) Species observed (if kn	nwn)
Salamandara Observad 2/V/BL Chapter shapped (if brown)	(
L L	ved (if known):
•	:
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest fo	or site evaluation and a narrative description of the stream's location
	· · linx
Train	asmission Line
	Kom A)
FLOW	
	( ta ( )
5	(Shrub)

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	30
SITE NAME/LOCATION CHOOS VILLE POLICE  SITE NUMBER RIVER BASIN 050400040501 RIVER CODE DRAINAGE AREA (MIF) _  LENGTH OF STREAM REACH (ft) LAT39 7 CH32 LONG 82.00001 RIVER MILE _  DATE 5 21 20 SCORER COMMENTS SO41  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts]  COBBLE (85-256 mm) [12 pts] SLT [3 pts]  COBBLE (85-256 mm) [12 pts] SAND (<2 mm) [9 pts] MUCK [0 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A) [6]	HHEI Metric Points Substrate Max = 40
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:  Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  30 centimeters [20 pts]   5 cm - 10 cm [15 pts]   > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]   > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]    COMMENTS   MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY • NOTE: River Left (L) and Right (R) as looking downstream.  RIPARIAN WIDTH (Per Bank) L R L R  Wide > 10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Field Urban or industrial Narrow <5m Residential, Park, New Field Open Pasture, Row C None Fenced Pasture Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermitting Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)	rop 1
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0 0.5 5.5 2.5 >3  STREAM GRADIENT ESTIMATE  Flat 10 5 2100 21 Flat to Moderate Moderate 12 2100 21 Moderate to Severe Severe Severe Severe Severe	100 थ

# ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? The QHEI Score \_\_\_\_\_\_ (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: .... MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order: \_\_\_\_\_ County: | Movaan Co Township/City: MISCELLANEOUS Base Flow Conditions? (Y/N) Date of last precipitation: 5/21/20 Quantity: 501/ Photo-documentation Notes: Elevated Turbidity?(Y/N): N Canopy (% open): 70 Were samples collected for water chemistry? (Y/N): Lab Sample # or D (attach results): Field Measures:Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (umhos/cm) is the sampling reach representative of the stream (Y/N) \_\_\_\_\_ If not, explain. \_\_\_\_\_\_ Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) M Species observed (if known):\_\_\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location -Transmission Line ROW

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	34
SITE NAME/LOCATION COOSVILLO FINE SITE NUMBER RIVER BASIN COOS RIVER CODE DRAINAGE AREA (mir) LENGTH OF STREAM REACH (ft) LAT 37. TO 143 LONG 22.0 151 8 RIVER MILE DATE 52170 SCORER COMMENTS SO42  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instance Channel Modifications: None Natural Channel Recovered Recovering Recent or Natural Channel Recovered Recovering Recovering Recovering Recovered Recov	structions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] SLT [3 pt]  BEDROCK [16 pts] SLT [3 pts]  COBBLE (65-256 mm) [12 pts] SLT [3 pts]  COBBLE (65-256 mm) [12 pts] SAND (<2 mm) [9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 5	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information <u>mus</u> talso be completed	
RIPARIAN WIDTH  L R (Per Bank)  Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermitte Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1,0	nt)
Flat ৩5 পাজ বা Flat to Moderate প্রশাসন Moderate হ পাজ ক Moderate to Severe ি Severe 10 পা	<b>ာ</b> ၏

QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM_DESIGNATED_USE(S)	
Distance from Evaluated Stream	
☐ CWH Name: Distance from Evaluated Stream ☐ EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name NRCS Soil Map Page: NRCS Soil Map Stream Order:	
County: Township/City:	
MISCELLANEOUS	
Base Flow Conditions? (YN): Date of last precipitation: 5/21/20 Quantity:	
Photo-documentation Notes	
Elevated Turbidity?(Y/N): N Canopy (% open): 501.	
Were samples collected for water chemistry? (Y/N): Lab Sample # or ₺ (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
is the sampling reach representative of the stream (Y/N) If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS	
(Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N)	
Salamanders Observed? (Y/N) Species observed (if known)(	
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	
Cold ( PA)	1
open field (Trengentsianline ROW)	)
01	
FLOW	1
Forestal	1
penfield	
	1
	1

Page 2

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION CYCONSVII (0 PM) (	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL PRECOVERED RECOVERING RECENT OR NO RECENT OR NO REC	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SILT [3 pt]  BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	HEI etric pints bstrate ux = 40
	ol Depth
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4" 8') [15 pts] W	inkfull lidth ax=30
This information must also be completed	
RIPARIAN WIDTH  RESIDENT OF CONSERVATION Tillage  RESIDENT OF CONSERVATION Tillage  RESIDENT OF CONSERVATION  RESIDENT OF CONSTRUCTION  RESIDENT OF CONSTRUCTION  COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)  COMMENTS   Dry channel, no water (ephemeral)  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1,0   2,0   3,0   3,0   0,5   1,5   2,5   >3  STREAM GRADIENT ESTIMATE	
☐ Flat ps কাজ ক ☐ Flat to Moderate ☐ Moderate হ কাজ ক ☐ Moderate to Severe াও কাজ ক	- 1

QHEI PERFORMED? Yes No QHEI Score	(If Yes, Attach Completed QHE) form)
DOWNSTREAM, DESIGNATED USE(S)	
WWH Name: WYKUN	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE V	NATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle NameNRCS Soil	il Map Page: NRCS Soit Map Stream Order:
County: Perry Co. Township/	City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation: 5	21 20 Quantity:
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): N Canopy (% open): 50 (	•
Were samples collected for water chemistry? (Y/N): Lab Sa	ample # or D (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umhos/cm)
is the sampling reach representative of the stream $(YN)$ $\longrightarrow$ If not, ex	splain:
Additional comments/description of pollution impacts:	
Additional continuances of public of politician impacts.	
BIOLOGICAL OPSERVA	TIONS
BIOLOGICAL OBSERVA  (Record all observations to	Additional Association 1.1
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) Species observed (if known	
Salamanders Observed? (Y/N) Species observed (if known):	
1	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF	F STREAM REACH (This must be completed)
Include important (and marks and other features of interest for site	e evaluation and a nurrative description of the stream's location
(-1)	
Foresteel	
LOW	
1 2 / (-	transmissionline RUN
	11000
	f ×

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	52
SITE NAME/LOCATION CYOUSSVILL POUR SITE NUMBER RIVER BASIN SO 4000 40501 RIVER CODE DRAINAGE AREA (MF) LENGTH OF STREAM REACH (ft) LAT 39.700367 LONG 82.079559 RIVER MILE DATE 5 21 20 SCORER CO COMMENTS \$045	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	
1. SUBSTRATE (Estimate percent of every type present), Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 3). Final metric score is sum of boxes A & B  TYPE PERCENT TYPE  BLDR SLABS [16 pts] SLT [3 pt]  BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts]  COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]  GRAVEL (2-64 mm) [9 pts] MUCK [0 pts]  SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]  Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation, Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box);    > 4,0 meters (> 13') [30 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstrean	1*
RIPARIAN WIDTH  L R (Per Bank)  L R  Wide >10m	Сгор
L R (Per Bank) L R L R  Wide > 10m	Crop on
L R  (Per Bank)  L R  Wide > 10m  Mature Forest, Wetland  Conservation Tillage  Immature Forest, Shrub or Old Field  Urban or Industrial  Narrow < 5m  Residential, Park, New Field  Open Pasture, Row  None  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing  Subsurface flow with isolated pools (interstitial)  COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	Crop on
R   (Per Bank)   L   R   R   L   R   Wide > 10m   Mature Forest, Wetland   Conservation Tillage   Moderate S-10m   Immature Forest, Shrub or Old Field   Urban or Industrial   Open Pasture, Row   Narrow < Sm   Residential, Park, New Field   Open Pasture, Row   Mining or Construction   Mining or Construction   COMMENTS   FLOW REGIME (At Time of Evaluation) (Check ONLY one box):    Stream Flowing   Moist Channel, isolated pools, no flow (intermited Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)   COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None   1.0   2.0   3.0   3.0   0.5   1.5   2.5   3	Crop on —- ttent}

QHEI PERFORMED	? Yes No QHEI Score (If Yes, A	Attach Completed QHEI form)	
	SIGNATED USE(S)	Distance from Evaluated Stream	
CWH Name:	Thur.	Distance from Evaluated Stream	
EWH Name:		Distance from Evaluated Stream	
MAPPING: ATTACH	COPIES OF MAPS. INCLUDING THE ENTIRE WATER SHED	AREA. CLEARLY MARK THE SITE LOCATION:	
USGS Quadrangle Name	NRCS Soil Map Page:	: NRCS Soil Map Stream Order:	
County: Perr	Township/City:		
MISCELLANEOUS	U	-	
Base Flow Conditions? (Y/N);	Date of last precipitation: 5/21/20	Quantity: 50"	
Photo-documentation Notes:			
Elevated Turbidity?(Y/N)	Canopy (% open): 56 (.		
Were'samples collected for w	raterichemistry?(Y/N): Lab Sample # or €	D (attach results):	
Field Measures:Temp (°C)	Dissolved Oxygen (mg/l) pH (S.U.	Conductivity (umhos/cm)	
is the sampling reach represe	entative of the stream (Y/N) If not, explain:		
	Į.		
Additional comments/descripti	ion of pollution impacts		
-			
	BIOLOGICAL OBSERVATIONS (Record all observations below)		
Fish Observed? (Y/N)	Species observed (if known):		
	(Y/N) N Species observed (if known):		
	Species observed (if known);		
Aquatic Macroinvertebrates O	bserved? (Y/N) Species observed (if known);		
Comments Regarding Biology		P	
		t	
DRAWING AN	ID NARRATIVE DESCRIPTION OF STREAM	M REACH (This must be completed)	\
Include important la	andmarks and other features of interest for site evaluation.	and a narrative description of the stream's location	)
Forstrak	L Transmission live Rd	$w\rightarrow V$	00
(0,0)	(Macross National		
FLOW			
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( ( )		Friestee )	
5			
	1		
October 2018 Revision	Page 2		

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	27
SITE NAME/LOCATION	or Instructions
1. SUBSTRATE (Estimate percent of every type present), Check ONLY two predominant substrate TYPE boxes  (Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes, A &  TYPE  PERCENT  SLT [3 pt]  BLDR SLABS [16 pts]  BEDROCK (>256 mm) [16 pts]  BEDROCK [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  GRAVEL (2-64 mm) [9 pts]  Total of Percentages of  Bidr Slabs, Boulder, Cobble, Bedrock  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:  TOTAL NUMBER OF SUBSTRATE TYPES:	HHEI Metric Points Substrate Max = 40  A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation, Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]   > 5 cm [5pts]   > 5 cm [5pts]   NO WATER OR MOIST CHANNEL [0pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstructured in the second process of the second process in the sec	ge II w Crop
FLOW REGIME (Ar Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (interestitial)   Dry channel, no water (ephemeral)  COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1 0   2.0   3.0  0.5   1.5   2.5   >3	rmittent)
STREAM GRADIENT ESTIMATE  [Flat ৩5 খণত খ Flat to Moderate   Moderate 2 খণতে খ Moderate to Severe Severe	10 5100 5

QHEI PERFORMED? Yes No QHEI Score (If Yes, A	ttach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)  CWH Name:  EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATER SHED A	AREA. CLEARLY MARK THE SITE LOCATION,
USGS Quadrangle Name: NRCS Soil Map Page:  County: Township/City: Township/City:	NRCS Soil Map Stream Order:
MISCELLANEOUS	
Base Flow Conditions? (Y/N) Date of last precipitation: 5/21/20	Quantity: 450.17
Photo-documentation Notes	
Elevated Turbidity?(Y/N): Canopy (% open): 301.	
Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID	
Field Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (umhos/cm)
is the sampling reach representative of the stream (Y/N) If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) Species observed (If known);	
Salamanders Observed? (Y/N) M Species observed (if known)	
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known)	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include important landmarks and other features of interest for site evaluation at the stream of th	

Pege 2

Philomagen	e e	eadwater Habi	tat Field Evaluat HHEI Score (sum of		22
LENGTH OF DATE 5 2	CYCUSUILO R RIVER BASINO STREAM REACH (ft) SCORER Whete All Items On This Form ANNEL MODIFICATIONS:	COMMENTS SO	LONG 82.08255 046	PHWH Streams" for In	structions
(Max TYPE B B C C S Bidr Sid	STRATE (Estimate percent of er of 32). Add total number of signification o	cant substrate types foun RCENT TYPE	k ONLY two predominant subside (Max of 8), Final metric score  SLT [3 pt]  LEAF PACK/WOODY DEBRIS  FINE DETRITUS [3 pts]  CLAY of HARDPAN [0 pt]  MUCK [0 pts]  ARTIFICIAL [3 pts]	PERCENT [3 pts]  (B)	HHEI Metric Points Substrate Max = 40
> 30 c > 22.5 > 10 -	mum Pool Depth (Measure the, of evaluation, Avoid plunge pools tentimeters [20 pts] = 30 cm [30 pts] 22,5 cm [25 pts]	maximum pool depth will from road culverts or stor	thin the 61 meter (200 feet) e: m water pipes) (Check ONI 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST CHAI MAXIMUM POOL DEPTI	Yone box):	Pool Depth Max = 30
3. BANI > 4.0 : 3.0 : 3.0 : 3.5 :	K FULL WIDTH (Measured as the meters (> 13') [30 pts] m - 4.0 m (> 9' 7'-13') [25 pts] m - 3.0 m (> 4' 8' - 9' 7') [20 pts]		verments) (Check ONLY of > 1.0 m - 1.5 m (> 3' 3" - 4' 8" ≤ 1.0 m (≤ 3' 3")[5 pts]	)[15 pts]	Bankfull Width Max=30
		This information of	nustalso be completed	Basesand	
	,	L R  Mature Fores Immature For	QUALITY (Most Predominant L R t, Wetland		тор
STRE	Stream Flowing Subsurface flow with isolated po COMMENTS SINUOSITY (Number of bends) None 0.5 AM GRADIENT ESTIMATE	ols (interstitial)	Moist Channel, "solate Dry channel, no water	d pools, no flow (intermitte (ephemeral)  3.0 3.0 Severe 10.9	
☐ i lat. 45 g	Liet to word at a te		A mossimo to oceasio		

QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)				
DOWNSTREAM, DESIGNATED USE(S)				
WWH Name: Slack Fork Distance from Evaluated Stream				
CWH Name: Distance from Evaluated Stream  EWH Name: Distance from Evaluated Stream				
☐ EWH Name: Distance from Evaluated Stream				
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.				
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order:				
County: Perry Co Township/City:				
V				
MISCELLANEOUS				
Base Flow Conditions? (Y/N) Date of last precipitation: 5/21/20 Quantity: (SO')				
Photo-documentation Notes				
Elevated Turbidity?(Y/N): Canopy (% open): 20 (				
Were samples collected for water chemistry? (Y/N): Lab Sample # or □ (attach results):				
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)				
is the sampling reach representative of the stream (Y/N) If not, explain:				
Additional comments/description of pollution impacts:				
BIOLOGICAL OBSERVATIONS				
(Record all observations below)				
Fish Observed? (Y/N) Species observed (if known):				
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):				
Salamanders Observed? (Y/N) Species observed (if known);				
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):				
Comments Regarding Biology:				
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)				
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location				
Forestel				
( Torested )				
FLOW				

hio Prim	nary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	52
DATE 52 70 SCORER NOTE: Complete All Items On T	R BASINOSU TODU OSO PRIVER CODE DRAINAGE AREA (MF)	structions
	LEAF PACKWOODY DEBRIS [3 pts]	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Me	leasure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the kinge pools from road culverts or storm water pipes (Check ONLY one box):    S cm - 10 cm [15 pts]     < 5 cm [5pts]     NO WATER OR MOIST CHANNEL [0pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Meas: > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7*- 13') > 1.5 m - 3.0 m (> 4' 8' - 9' 7	[25 pts] ≤1.0 m (≤3'3")[5 pts]	Bankfull Width Max=30
0.0101411 20112 41	This information must also be completed	
RIPARIAN ZONE AI  RIPARIAN WIDTH  R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m  None  COMMENTS	L R  Mature Forest, Wetland  Conservation Tillage	гор
FLOW REGIME (At Stream Flowing Subsurface flow with COMMENTS	er of bends per 61 m (200 ft) of channel) (Check ONLY one box):  1,0	ent)
Flat 105 \$100 \$1	Moderate Moderate iz খাতে খা Moderate to Severe Severe াত খ	100 🕈

QHEI PERFORMED? Yes No QHEI Score (if Yes, At	tach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)	
ZWWH Name: Black Fork	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED A	
USGS Quadrangle Name: NRCS Soil Map Page:	NRC3 30# Map 3#ean Older
County: Yeyry Co. Township/City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation: 5/2//20	Quantity: 150"
Photo-documentation Notes	
Elevated Turbidity?(Y/N): N Canopy (% open): 751.	
Were samples collected for water chemistry? (Y/N): Lab Sample <b>#</b> or <b>□</b>	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
is the sampling reach representative of the stream (Y/N) If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS	
(Record all observations below)	
Fish Observed? (Y/N) Species observed (if known)	
Frogs or Tadpoles Observed? (Y/N) Species observed (If known):	
Salamanders Observed? (Y/N) Species observed (if known);	
Aquatic Macroinvertebrates Observed? (Y/N) \ Species observed (if known):	
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include important landmarks and other features of interest for site evaluation as	
1 C- Transmission Live Prav-	
LOW	
	V
1.0	Roidointi(01)
Residential	MIK DICKEY CO.
	1100
1.000	

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



Site: Crooks	SVILLE Philo	Rater(s): LU		Date: 5 18 20	
Metric 1. Wetland Area (size).					
max 6 pts. subtotal	Select one size class and assign sco	116.	01-PEM-CAT2		
	>50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04 to <0.1 acres (0.04ha) (0 pts)	20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)			
5 6	Metric 2. Upland bu	iffers and surround	ding land use.		
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers  2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	om (164ft) or more around wetland 2 25m to <50m (82 to <164ft) aroun 2 10m to <25m (32ft to <82ft) around 2 average <10m (<32ft) around wetla	perimeter (7) and wetland perimeter (4) und wetland perimeter (1) and perimeter (0) average. average. ildlife area, etc. (7) h forest. (5) nservation tillage, new fallo	ow field. (3)	
18 24	Metric 3. Hydrology		······································		
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la	ace water (3) lke or stream) (5)	Part of wetland/up Part of riparian or Duration inundation/sate	in (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check.	
	3c. Maximum water depth. Select of >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in)		Regularly inundated Seasonally inundated	ated (2)	
	<ul> <li>&lt;0.4m (&lt;15.7in) (1)</li> <li>3e. Modifications to natural hydrolog</li> </ul>		eck and average.	ated in upper 30cm (12in) (1)	
	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observe ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR trac dredging other		
731	Metric 4. Habitat Al	teration and Devel	opment.		
max 20 pts. subtotal	4a. Substrate disturbance. Score on None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)				
	4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2)	y one and assign score.			
	Poor (1) 4c. Habitat alteration. Score one or	double check and average.			
3)	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	itic bed removal	

last revised 1 February 2001 jjm

Site: Crooks	sulle Philo	Rater(s): KU	Date: 5 8 20
31 subtotal first p	Metric 5. Special V	Vetlands.	W001-PEM-CAT2
max 10 pts. subtotal	Lake Erie coastal/tributary Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/f	(5) y wetland-unrestricted hyd y wetland-restricted hydrol (Oak Openings) (10) federal threatened or enda gbird/water fowl habitat or	logy (5) Ingered species (10) usage (10)
0 3	Metric 6. Plant con	nmunities, into	erspersion, microtopography.
max 20 pts. subtotal	⊒ 6a. Wetland Vegetation Communiti	es. Vegetation	Community Cover Scale
	Score all present using 0 to 3 scale.		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	2	Present and either comprises significant part of wetland's
	Mudflats		vegetation and is of moderate quality or comprises a small
	Open water		part and is of high quality
	Other6b. horizontal (plan view) Interspers	sion.	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Select only one.	Namatica Di	
	High (5) Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
	Moderate (3)	low	disturbance tolerant native species
	Moderately low (2)	mod	Native spp are dominant component of the vegetation,
	Low (1)	Unione-	although nonnative and/or disturbance tolerant native spp
	None (0)		can also be present, and species diversity moderate to
	6c. Coverage of invasive plants. Re		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, the presence of rare, threatened, or endangered spp
	Sparse 5-25% cover (-1) Nearly absent <5% cover	(0)	the presence of rare, threatened, or endangered spp
	Absent (1)	` '	Open Water Class Quality
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tus	sucks 2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15	cm (6in) 3	High 4ha (9.88 acres) or more
	Standing dead >25cm (10		
	Amphibian breeding pools		raphy Cover Scale
	22	0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest
	*	2	quality or in small amounts of highest quality
		3	Present in moderate or greater amounts
		J	and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Cracks	ville. this	Rater(s): KC	Date: 5 8 20
	Metric 1. Wetland A	Area (size).	002-PEM-CATMOD2
max 6 pts. subtotal	Select one size class and assign scores (>20.2ha) (6 pts 25 to <50 acres (10.1 to < 10 to <25 acres (4 to <10. 3 to <10 acres (1.2 to <4h	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
89	Metric 2. Upland bu	uffers and surrour	nding land use.
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers  2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Om (164ft) or more around wetlar e 25m to <50m (82 to <164ft) aro ge 10m to <25m (32ft to <82ft) a average <10m (<32ft) around we e. Select one or double check a or older forest, prairie, savannah, s), shrub land, young second gro	nd perimeter (7) und wetland perimeter (4) round wetland perimeter (1) etland perimeter (0) nd average. wildlife area, etc. (7) with forest. (5) conservation tillage, new fallow field. (3)
16 25	Metric 3. Hydrology		
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfations		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)
	3c. Maximum water depth. Select o	ake or stream) (5) nly one and assign score.	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)  Seasonally inundated (2)  Seasonally saturated in upper 30cm (12in) (1)
	3e. Modifications to natural hydrolog  None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)	8 E. U.S.	check and average.
11 36	Metric 4. Habitat Al	teration and Deve	elopment.
max 20 pts. subtotal	4a. Substrate disturbance. Score or None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	Ü	
	4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or		
360 subtotal this pa	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observations of the control	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

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Site:(\)	wks,	MePhi	6	Rater(s	): KW		Date: 5   8 20
W002-PEM-CATMOD2  O 30 Metric 5. Special Wetlands.							
max 10 pts.	subtotal	Bog Fen Old g Matu Lake Lake Relic Knov Sign Cate	growth forest (10) fore forested wetland (! Frie coastal/tributary Frie coastal/tributary Plain Sand Praines ( to Wet Prairies (10) who occurrence state/fe ficant migratory song gory 1 Wetland. See	5) wetland-unr wetland-res Oak Opening ederal threate bird/water fo	tricted hydrolo gs) (10) ened or endan wl habitat or u Qualitative Ra	gy (5)  gered species (10)  sage (10)  ting (-10)	
4	40	Metric 6	. Plant con	nmunit	ies, inte	erspersion, microto	pography.
max 20 pts.	subtotal	6a. Wetland V	egetation Communitie	es.	Vegetation C	ommunity Cover Scale	
		Score all prese	nt using 0 to 3 scale.		0	Absent or comprises <0.1ha (0.24	
			atic bed		4	Present and either comprises sma	•
			rgent			vegetation and is of moderate q	-
		() Shru	b			significant part but is of low qua	
		Fore	st		2	Present and either comprises sign	
		Mudi     Mud	flats			vegetation and is of moderate q	uality or comprises a small
		O Oper	n water			part and is of high quality	
		Othe	r	_	3	Present and comprises significant	part, or more, of wetland's
		6b. horizontal	(plan view) Interspers	ion.		vegetation and is of high quality	
		Select only one	).			<b>F</b>	
		High			Narrative Des	scription of Vegetation Quality	
			erately high(4)		low	Low spp diversity and/or predomi	nance of nonnative or
			erate (3)			disturbance tolerant native spec	
		_	erately low (2)		mod	Native spp are dominant compon-	
		Low	, , ,			although nonnative and/or distu	
		None				can also be present, and specie	
		-	of invasive plants. Re	efer		moderately high, but generally v	
			AM long form for list.			threatened or endangered spp	
		or deduct point	•		high	A predominance of native species	s, with nonnative spp
			nsive >75% cover (-5	)	oni <b>e</b> ia	and/or disturbance tolerant nativ	
			erate 25-75% cover (-			absent, and high spp diversity a	
			se 5-25% cover (-1)	٠,		the presence of rare, threatened	
			ly absent <5% cover	(0)			
		-	ent (1)	. ,	Mudflat and	Open Water Class Quality	
		6d. Microtopog	` '		0	Absent <0.1ha (0.247 acres)	<del>-</del>
			nt using 0 to 3 scale.		1	Low 0.1 to <1ha (0.247 to 2.47 ac	eres)
			etated hummucks/tuss	sucks	2	Moderate 1 to <4ha (2.47 to 9.88	
			se woody debris >15		3	High 4ha (9.88 acres) or more	
		-	ding dead >25cm (10			Thigh the (order cares) or the c	
		_	hibian breeding pools	•	Microtopogra	aphy Cover Scale	
		(C)			0	Absent	
					1	Present very small amounts or if	more common
						of marginal quality	
					2	Present in moderate amounts, bu	t not of highest
					2	quality or in small amounts of hi	-
					3	Present in moderate or greater ar	
					J	and of highest quality	nounts
						. and or matical quality	

Site: Crooks	VILLE	Yhilo 1	Rater(s): KUV		Date: 5 6 20
max 6 pts. subtotal		ic 1. Wetland A ne size class and assign scor ]>50 acres (>20.2ha) (6 pts)	, , , , , , , , , , , , , , , , , , , ,	03-PSS-CATMOD	2
		25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 0.1 to <0.3 acres (0.04 to <0 <0.1 acres (0.04ha) (0 pts)	na) (4 pts) (3 pts) 2ha) (2pts) 0.12ha) (1 pt)		
8 10	Metri	c 2. Upland bu	ffers and surrou	nding land use.	
max 14 pts. subtotal	×	WIDE. Buffers average 50n MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a sity of surrounding land use. VERY LOW. 2nd growth or LOW. Old field (>10 years), MODERATELY HIGH. Res	select only one and assign scorn (164ft) or more around wetlar 25m to <50m (82 to <164ft) arc 10m to <25m (32ft to <82ft) a overage <10m (<32ft) around w Select one or double check a older forest, praine, savannah, shrub land, young second groidential, fenced pasture, park, en pasture, row cropping, minit	nd perimeter (7) bund wetland perimeter (4) uround wetland perimeter (1) etland perimeter (0) und average. und average. wildlife area, etc. (7) wth forest. (5) conservation tillage, new fallo	ow field. (3)
13 23	Metri	c 3. Hydrology			
max 30 pts. subtotal	3a. Sour	ces of Water. Score all that a High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface		Part of wetland/u	
	×	Perennial surface water (lak mum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1)	e or stream) (5) ly one and assign score.	3d. Duration inundation/sat Semi- to permand Regularly inunda Seasonally inunda Seasonally satura	uration. Score one or dbl check. ently inundated/saturated (4) ted/saturated (3)
		None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	Course with		·
12 25	Metri	ic 4. Habitat Alt	eration and Dev	elopment.	
max 20 pts. subtotal	4a. Subs	None or none apparent (4) Recovered (3) Recovering (2)	e or double check and average.		
	4b. Habit	Recent or no recovery (1) at development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	one and assign score.		
	4c. Habita	at alteration. Score one or d			
35 subtotal this pa		None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal
last revised 1 Februar	_	ı	u.		

Site:	rooks	ville Philo Rater	(s): KU	Date: 5 13 70
si	35 ubtotal first pa	ige		W003-PSS-CATMOD2
Ö	35	Metric 5. Special Wetlan	ds.	
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-re Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydrol ings) (10) atened or enda fowl habitat or 1 Qualitative R	ogy (5) Ingered species (10) Usage (10) ating (-10)
8	43	Metric 6. Plant communi	ities, int	erspersion, 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	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
		Mudflats	4	
				vegetation and is of moderate quality or comprises a small
		Open water	7	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.		The state of the s
		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)		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 presence of fare, threatened, or ordangerou app
		Absent (1)	Mudflot and	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		
		Amphibian breeding pools		raphy Cover Scale
			0	Absent
			1	Present very small amounts or if more common
		ŕ		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

grazing

clearcutting

selective cutting

toxic pollutants

woody debris removal

herbaceous/aquatic bed removal

sedimentation

nutrient enrichment

dredging

farming

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Recovering (3)

Recent or no recovery (1)

	O Field Fo	om Quantitative Rating			1		
Site: (	rook	Sullethio IR	ater(s): KU		Date: 5 18 70		
sui	W004-PEM-CAT2  32 Metric 5. Special Wetlands.						
max 10 pts.	subtotal	Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wet Lake Erie coastal/tributary wet Lake Plain Sand Prairies (Oak Relict Wet Prairies (10) Known occurrence state/feder Significant migratory songbird Category 1 Wetland. See Que	tland-unrestricted hydrolo tland-restricted hydrolo ( Openings) (10) ral threatened or endar /water fowl habitat or u estion 1 Qualitative Ra	ngy (5) ngered species (10) nsage (10) ting (-10)			
1	33	Metric 6. Plant comm	·	•	opography.		
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.  Score all present using 0 to 3 scale.	Vegetation C	Absent or comprises <0.1ha (0.24	471 acres) contiguous area		
		Aquatic bed Emergent Shrub	1	Present and either comprises sm vegetation and is of moderate of significant part but is of low qua	all part of wetland's quality, or comprises a		
		Forest Mudflats Open water	2	Present and either comprises sig vegetation and is of moderate of part and is of high quality	quality or comprises a small		
		6b. horizontal (plan view) Interspersion.	3	Present and comprises significan vegetation and is of high quality			
		Select only one.	Nemetive Do	estation of Vacatation Quality			
		High (5)  Moderately high(4)  Moderate (3)	low	Low spp diversity and/or predomi disturbance tolerant native spe			
		Moderately low (2) Low (1)	mod	Native spp are dominant compon although nonnative and/or distu	ent of the vegetation,		
		None (0)  6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		can also be present, and specie moderately high, but generally 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 specie and/or disturbance tolerant nati absent, and high spp diversity a the presence of rare, threatene	ve spp absent or virtually and often, but not always,		
		Nearly absent <5% cover (0)					
		Absent (1) 6d. Microtopography.	Mudflat and	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 acres)	cres)		
		Vegetated hummucks/tussuck	s 2	Moderate 1 to <4ha (2.47 to 9.88			
		Coarse woody debris >15cm ( Standing dead >25cm (10in) of		High 4ha (9.88 acres) or more			
		Amphibian breeding pools		aphy Cover Scale			
			0	Absent	~		
			4	Present very small amounts or if of marginal quality	more common		
			2	Present in moderate amounts, but quality or in small amounts of h	3		
			3	Present in moderate or greater at and of highest quality	mounts		

Site:	rooks	Rater(s):	Date: 5/6/20
	1	etric 1. Wetland Area (size).	W005-PEM-CAT2
max 6 pts.	subtotal	25 to 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)	
1 \	12	etric 2. Upland buffers and surro	ounding land use.
max 14 pts.	subtotal	Calculate average buffer width. Select only one and assign WIDE. Buffers average 50m (164ft) or more around w MEDIUM. Buffers average 25m to <50m (82 to <164ft NARROW. Buffers average 10m to <25m (32ft to <82 VERY NARROW. Buffers average <10m (<32ft) arour Intensity of surrounding land use. Select one or double che VERY LOW. 2nd growth or older forest, prairie, savan LOW. Old field (>10 years), shrub land, young second MODERATELY HIGH. Residential, fenced pasture, patters, pa	etland perimeter (7) ) around wetland perimeter (4) 2ft) around wetland perimeter (1) nd wetland perimeter (1) nd wetland perimeter (0) nck and average. nah, wildlife area, etc. (7) I growth forest. (5) ark, conservation tillage, new fallow field. (3)
13	25	etric 3. Hydrology.	
max 30 pts.	subtotal	Sources of Water. Score all that apply.  High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) Maximum water depth. Select only one and assign score.  >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) <0.4m (<15.7in) (1) Modifications to natural hydrologic regime. Score one or doi	1
		None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)  Check all disturbances of ditch tile dike weir stormwater input	point source (nonstormwater) filling/grading road bed/RR track dredging other
7	32	etric 4. Habitat Alteration and Do	evelopment.
max 20 pts.	subtotal	Substrate disturbance. Score one or double check and aver None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	age.
		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)  Habitat alteration. Score one or double check and average.	
Sur	37 bitotal this pa	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)  Check all disturbances of mowing grazing clearcutting selective cutting woody debris remotoxic pollutants	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging

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Site:(	rooks	iville Philo	Rater(s): 🔀	_V	Date: 5   8   20
	32 subtotal first pa	oge		W005-PEM-CAT2	
0	32	Metric 5. Special W	/etlands.		
max 10 pts.	subtotal	Check all that apply and score as inc Bog (10) Fen (10) Old growth forest (10) Mature forested wetland ( Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies ( Relict Wet Prairies (10) Known occurrence state/fe Significant migratory song Category 1 Wetland. See	5) wetland-unrestricted wetland-restricted hy Oak Openings) (10) ederal threatened or e bird/water fowl habital	drology (5)  ndangered species (10)  or usage (10)	
0	32	1 —		nterspersion, micro	topography.
max 20 pts.	subtotal	<ul> <li>6a. Wetland Vegetation Communitie</li> </ul>	es. Vegetati	on 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 a vegetation and is of moderate significant part but is of low of	e quality, or comprises a
		Forest Mudflats Open water	2	Present and either comprises so vegetation and is of moderate part and is of high quality	significant part of wetland's e quality or comprises a small
		6b. horizontal (plan view) Interspers	ion3	Present and comprises signific vegetation and is of high qua	
		Select only one. High (5)	Narrative	Description of Vegetation Quality	ı.
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predo disturbance tolerant native sp	minance of nonnative or
		Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Reto Table 1 ORAM long form for list.			sturbance tolerant native spp cies diversity moderate to ly w/o presence of rare
		or deduct points for coverage  Extensive >75% cover (-5  Moderate 25-75% cover (-1)  Sparse 5-25% cover (-1)	high	A predominance of native spec and/or disturbance tolerant n absent, and high spp diversit the presence of rare, threater	sies, with nonnative spp ative spp absent or virtually y and often, but not always,
		Nearly absent <5% cover	· ·		
		Absent (1) 6d. Microtopography.	<u>Mudilat a</u>	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/tuss	sucks 2	Moderate 1 to <4ha (2.47 to 9	
		Coarse woody debris >150 Standing dead >25cm (10	in) dbh	High 4ha (9.88 acres) or more	
		Amphibian breeding pools		ography Cover Scale	
			1	Absent  Present very small amounts or of marginal quality	if more common
			2	Present in moderate amounts, quality or in small amounts or	
20	1		3	Present in moderate or greater and of highest quality	

Site: CYXXX	Rater(s): W	Date: 5 18 20
	Metric 1. Wetland Area (size). W006-PEM-CAT2	
max 6 pls. subtotal	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)	
11 12	Metric 2. Upland buffers and surrounding land use.	
max 14 pts. subtotal	Calculate average buffer width. Select only one and assign score. Do not double check.  WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)  MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)  NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)  VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)  2b. Intensity of surrounding land use. Select one or double check and average.  VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)  LOW. Old field (>10 years), shrub land, young second growth forest. (5)  MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)
16 28	Metric 3. Hydrology.	
max 30 pts, sublotal	Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score.  >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)  <0.4m (<15.7in) (1)  Part of wetland/up Part of wetland/up Part of wetland/up Part of wetland/up Part of vetland/up Part of wetland/up Part of vetland/up Part	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check. ently inundated/saturated (4) ed/saturated (3)
	3e. Modifications to natural hydrologic regime. Score one or double check and average.  None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	
7 35	Metric 4. Habitat Alteration and Development.	-
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)  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.	
35 subtotal this p	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	tic bed removal

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Site: (	100k	SVILLE Philo Rater	(s): KU	Date: 5 8 20			
su	35 obtotal first pa	oge	W006-PEM-CAT2				
0	35	Metric 5. Special Wetlar	ids.				
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 thresignificant migratory songbird/water Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or enda fowl habitat or 1 Qualitative R	logy (5)  ungered species (10)  usage (10)  ating (-10)			
2	37			erspersion, 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	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			
		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		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)	1011	disturbance tolerant native species			
	55	Moderately low (2)	mod	Native spp are dominant component of the vegetation,			
		Low (1)	11.00	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			
			nign	and/or disturbance tolerant native spp absent or virtually			
		Extensive >75% cover (-5)		absent, and high spp diversity and often, but not always,			
		Moderate 25-75% cover (-3)					
		Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp			
		Nearly absent <5% cover (0)	84454	One was taken Class Overlies			
		Absent (1)		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		ranky Cayor Carlo			
		Amphibian breeding pools		raphy 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			
		8	-	and of highest quality			
1/-				The state of the s			

Site: Cyooks	Sville Philo Rater(s): KW	Date: 5 6 20
22	Metric 1. Wetland Area (size). W007-PEM/PUB-CA	ΓMOD2
max 6 pts, subtotal	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)	
11 13	Metric 2. Upland buffers and surrounding land use.	
	2a. Calculate average buffer width. Select only one and assign score. Do not double check.  WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)  MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)  NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)  VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)  Intensity of surrounding land use. Select one or double check and average.  VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)  LOW. Old field (>10 years), shrub land, young second growth forest. (5)  MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallowed the construction. (1)	ow field. (3)
14 27	Metric 3. Hydrology.	
	Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3d. Duration inundation/sat  3c. Maximum water depth. Select only one and assign score.  >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) <0.4m (<15.7in) (1)  Part of wetland/u Part of vetland/u	nin (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check. ently inundated/saturated (4) ted/saturated (3)
	3e. Modifications to natural hydrologic regime. Score one or double check and average.  None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	
9 36	Metric 4. Habitat Alteration and Development.	
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)	
	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.	
340 subtotal this page	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (4) Re	atic bed removal

last revised 1 February 2001 jjm

Site:	VNSV	SVIII	Philo	Rater(s):	KIN		Date: 5 870
01101	41112	-		11.0.10.107	1200		1-44-5
s	Ho ubtotal first pa	nge				W007-PEM/PUB-CAT	TMOD2
$\Diamond$	Metric 5. Special Wetlands.						
max 10 pts,	subtotal	Check all	that apply and score as in Bog (10) Fen (10) Old growth forest (10) Mature forested wetland ( Lake Erie coastal/tributar Lake Erie coastal/tributar Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/t	(5) y wetland-unres y wetland-restri (Oak Openings federal threaten	cted hydrolo ) (10) ed or endan	gy (5) gered species (10)	
			Category 1 Wetland. See				
5	41	Metri	ic 6. Plant con	nmunitie	es, inte	rspersion, microto	pography.
max 20 pts.	subtotal		and Vegetation Communiti		egetation C	ommunity Cover Scale	
		Score all	present using 0 to 3 scale.	0	0	Absent or comprises <0.1ha (0.24	
		4	Aquatic bed		1	Present and either comprises small	•
		2	Emergent Shrub			vegetation and is of moderate q significant part but is of low qua	
		8	Forest	112	2	Present and either comprises sign	
		0	Mudflats		_	vegetation and is of moderate q	
		a	Open water			part and is of high quality	admy or comprises a small
		0	Other	35	3	Present and comprises significant	part, or more, of wetland's
		6b. horiz	ontal (plan view) Intersper	sion.		vegetation and is of high quality	
		Select on		=			
			High (5)	, N	arrative Des	scription of Vegetation Quality	
			Moderately high(4)	3=	low	Low spp diversity and/or predomi	nance of nonnative or
			Moderate (3)			disturbance tolerant native spec	
		$\times$	Moderately low (2)		mod	Native spp are dominant component	
			Low (1)			although nonnative and/or distu	
			None (0)			can also be present, and specie	
			rage of invasive plants. R			moderately high, but generally w	v/o presence of rare
			1 ORAM long form for list.	Add		threatened or endangered spp	
			points for coverage		high	A predominance of native species	
		· ·	Extensive >75% cover (-5			and/or disturbance tolerant nativ	· · · · · · · · · · · · · · · · · · ·
			Moderate 25-75% cover ( Sparse 5-25% cover (-1)	-3)		absent, and high spp diversity a the presence of rare, threatened	N M W
			' '	(0)		the presence of rare, threatened	i, or endangered spp
		-	Nearly absent <5% cover Absent (1)	` '	udflat and (	Open Water Class Quality	
		6d Micro	otopography.		0	Absent <0.1ha (0.247 acres)	<del></del> 8
			present using 0 to 3 scale.	_	1	Low 0.1 to <1ha (0.247 to 2.47 ac	res)
		(7)	Vegetated hummucks/tus		2	Moderate 1 to <4ha (2.47 to 9.88	
		O	Coarse woody debris >15	_	3	High 4ha (9.88 acres) or more	
		0	Standing dead >25cm (10	` ′ —		9	
		2	Amphibian breeding pools		icrotopogra	phy Cover Scale	
		-	10	· ·	0	Absent	
				_	1	Present very small amounts or if r	more common
						of marginal quality	
					2	Present in moderate amounts, bu	
				· -		quality or in small amounts of hi	
	ı.				3	Present in moderate or greater ar	nounts
2 T T						and of highest quality	

Site: CYOOKS	Rater(s): KW	Date: 5/18/20
22	Metric 1. Wetland Area (size). W008-PL	JB-CATMOD2
max 6 pts. subtotal	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)	
11 13	Metric 2. Upland buffers and surrounding	
max 14 pts. subtotal	Calculate average buffer width. Select only one and assign score. Do width width. Select only one and assign score. Do width width width with width of the w	meter (7) etland perimeter (4) wetland perimeter (1) perimeter (0) rage. e area, etc. (7) est. (5) vation tillage, new fallow field. (3)
16 29	Metric 3. Hydrology.	
max 30 pts. subtotal	High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) <0.4m (<15.7in) (1)	onnectivity. 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) uration 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)
	3e. Modifications to natural hydrologic regime. Score one or double check  None or none apparent (12)  Recovered (7)  Recovering (3)  Recent or no recovery (1)  Respond to the dike weir stormwater input	point source (nonstormwater) filling/grading road bed/RR track dredging other
8 37	Metric 4. Habitat Alteration and Develop	ment.
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)  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)	
37	4c. Habitat alteration. Score one or double check and average.  None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (8) Recovering (9) Recovering (9) Recovering (1)	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment
subtotal this pa	L.	

Site:	mok	Sulle Philo Rater	(s): KU	Date: 5 18 20
St	37			W008-PUB-CATMOD2
0	37	Metric 5. Special Wetlan	ıds.	
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-t Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro nings) (10) eatened or enda fowl habitat or 1 Qualitative R	angered species (10) usage (10) ating (-10)
6	43	Metric 6. Plant commun	ities, int	erspersion, 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	2	Present and either comprises significant part of wetland's
		Mudflats		vegetation and is of moderate quality or comprises a small
		Open water	V:	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.		2
		High (5)		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 to Table 1 ORAM long form for list. Add		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)	high	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
	8	Nearly absent <5% cover (0)	-	the presence of fare, uncateriou, or characters app
		Absent (1)	Mudflat and	Open Water Class Quality
		6d. Microtopography	0	Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale.	<u> </u>	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tussucks		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 state of the s
		Amphibian breeding pools	Microtopog	raphy 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
112				and of highest quality

Site: VINS	ville Philo	Rater(s): KU	Date: 5 19 20
	Metric 1. Wetland A	rea (size).	9-PEM-CATMOD2
max 6 pts. subtotal	Select one size class and assign sco >50 acres (>20,2ha) (6 pts 25 to <50 acres (10.1 to <10 cm) 10 to <25 acres (4 to <10.1 to <40 cm) 3 to <10 acres (1.2 to <40 cm) 0.3 to <3 acres (0.12 to <10 cm) 0.1 to <0.3 acres (0.04 to <10 cm) <0.1 acres (0.04ha) (0 pts)	) 20.2ha) (5 pts)  ha) (4 pts) a) (3 pts) .2ha) (2pts) :0.12ha) (1 pt)	
89	Metric 2. Upland bu		_
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers  2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re HIGH. Urban, industrial, o	Im (164ft) or more around wetland pet 25m to <50m (82 to <164ft) around 1e 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetlan 5. Select one or double check and are 10 older forest, prairie, savannah, wild 1), shrub land, young second growth f 10 sidential, fenced pasture, park, consepen pasture, row cropping, mining, co	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d vetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallow field. (3)
16 25	Metric 3. Hydrology	/.	
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select o	ace water (3) ake or stream) (5) 3d.	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) Duration inundation/saturation. Score one or dbl ched Semi- to permanently inundated/saturated (4)
	>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolog	) (2)	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 disturbances observed ditch tile dike weir stormwater input	point source (nonstormwater) filling/grading road bed/RR track dredging other
10 35	Metric 4. Habitat A	teration and Develo	pment.
max 20 pts. subtotal	4a. Substrate disturbance. Score or None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)		
	4b. Habitat development. Select on  Excellent (7)  Very good (6)  Good (5)  Moderately good (4)  Fair (3)  Poor to fair (2)  Poor (1)	ly one and assign score.	
	4c. Habitat alteration. Score one or None or none apparent (9)		
subtotal this pa	Recovered (6) Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment
	· y · · = · m···		

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Site: CYOO	NEN	16 Philo	Rater(s): KU	Date: 5 19 720
30 subtotal f	5 first page			W009-PEM-CATMOD2
0 3	5 1	Metric 5. Special V	Vetlands.	
max 10 pts. subi		Lake Erie coastal/tributar Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/ Significant migratory son Category 1 Wetland. See	(5) y wetland-unrestricted hydro y wetland-restricted hydro (Oak Openings) (10) federal threatened or end gbird/water fowl habitat or e Question 1 Qualitative F	angered species (10) r usage (10) Rating (-10)
0 35	5 N	letric 6. Plant cor		erspersion, microtopography.
max 20 pts. subt	total 6a	. Wetland Vegetation Communit	ies. Vegetation	Community Cover Scale
	So	ore 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
		2 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
		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
	6h	. horizontal (plan view) Intersper		vegetation and is of high quality
		lect only one.	SIOII.	vegetation and is or riigh quality
	00	High (5)	Narrative D	escription of Vegetation Quality
		Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
		Moderate (3)	low	disturbance tolerant native species
			mad	
		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
		Coverage of invasive plants. R		moderately high, but generally w/o presence of rare
		Table 1 ORAM long form for list.		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		
		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/tus	ssucks 2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		Ourse woody debris >15	5cm (6in) 3	High 4ha (9.88 acres) or more
		Standing dead >25cm (10	Din) dbh	
		Amphibian breeding pool	s Microtopog	graphy Cover Scale
		( Constant	0	Absent
			1	Present very small amounts or if more common of marginal quality
			2	Present in moderate amounts, but not of highest
			0	quality or in small amounts of highest quality
			3	Present in moderate or greater amounts and of highest quality
				i and of fidnest quality

Metric 1. Wetland Area (size). W010-PFO-CAT2  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)  Metric 2. Upland buffers and surrounding land use.  2a. Calculate average buffer width. Select only one and assign score. Do not double check.  WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)  MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)  NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)  VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)  2b. Intensity of surrounding land use. Select one or double check and average.
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)  Metric 2. Upland buffers and surrounding land use.  2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (0)
max 14 pts. subtotal  2a. Calculate average buffer width. Select only one and assign score. Do not double check.  WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)  MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)  NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)  VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)  MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)  NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)  VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)  LOW. Old field (>10 years), shrub land, young second growth forest. (5)  MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)  HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)
14 78 Metric 3. Hydrology.
The subtotal of the program of Water. Score all that apply.  3a. Sources of Water. Score all that apply.  3b. Connectivity. Score all that apply.  100 year floodplain (1)
0.4 to 0.7m (15.7 to 27.6in) (2)  Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Check all disturbances observed
Recovered (7) Recovering (3) Recent or no recovery (1)    ditch
12 40 Metric 4. Habitat Alteration and Development.
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)
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.  None or none apparent (9) Check all disturbances observed
Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no re

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Site: ()	rooks	ville Philo Rater	(s): KU		Date: 5	20/20
sub	40 stotal first pa	ige		W010-PFO-CAT2	,	
0	40	Metric 5. Special Wetlar	ıds.			
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/water Category 1 Wetland. See Question	restricted hydrol nings) (10) eatened or enda fowl habitat or	logy (5) ingered species (10) usage (10)		
9	49	Metric 6. Plant commun	ities, int	erspersion, microto	pograph	y.
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 (0.24	171 acres) contig	juous area
		Aquatic bed Emergent Shrub	1	Present and either comprises small vegetation and is of moderate of significant part but is of low qua	uality, or compris	
		- <del> </del>				otlandia
		Forest Mudflats Open water	2	Present and either comprises sign vegetation and is of moderate of part and is of high quality		
		Other	3	Present and comprises significan vegetation and is of high quality		f wetland's
		Select only one. High (5)	Narrative De	escription of Vegetation Quality		
		Moderately high(4)	low	Low spp diversity and/or predomi	nance of nonnati	ve or
		Moderate (3)	,0,11	disturbance tolerant native spec		•••
		Moderately low (2)	mod	Native spp are dominant compon		tion
		Low (1)	11100	although nonnative and/or distu		
		None (0)		can also be present, and specie		
		6c. Coverage of invasive plants. Refer		moderately high, but generally	-	
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	p. 00000 0	
		or deduct points for coverage	high	A predominance of native species	s, with nonnative	spp
		Extensive >75% cover (-5)	9	and/or disturbance tolerant nation		
		Moderate 25-75% cover (-3)		absent, and high spp diversity a		
		Sparse 5-25% cover (-1)		the presence of rare, threatened		-
		Nearly absent <5% cover (0)		and production	,, ,	
		Absent (1)	Mudflat and	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 ac	res)	
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88		
		O Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more		
		Standing dead >25cm (10in) dbh		Harris and the second s		
		Amphibian breeding pools	Microtopog	raphy Cover Scale		
		-ga-	0	Absent		
			1	Present very small amounts or if of marginal quality	more common	
			2	Present in moderate amounts, bu quality or in small amounts of hi		
			3	Present in moderate or greater ar		_
-				and of highest quality		

Site: Cruss	ivi	lle Philo	Rater(s): KW		Date: 5 20 20	
	IVI	etric 1. Wetland A	rea (size).	/011-PEM-CATI	MOD2	
max 6 pts. subtotal	Sel	ect one size class and assign sco				
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2	0.2ha) (5 pts)			
		10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha				
		0.3 to <3 acres (0.12 to <1. 0.1 to <0.3 acres (0.04 to <	2ha) (2pts)			
		<0.1 acres (0.04ha) (0 pts)				
12 13	M	etric 2. Upland bu	ffers and surround	ling land use.		
max 14 pts, subtotal	2a.		Select only one and assign score			
			m (164ft) or more around wetland <sub>l</sub> 25m to <50m (82 to <164ft) aroun			
			e 10m to <25m (32ft to <82ft) arou average <10m (<32ft) around wetla			
	2b.	Intensity of surrounding land use	. Select one or double check and	average.		
		LOW. Old field (>10 years)	r older forest, prairie, savannah, wi ), shrub land, young second growth	forest. (5)		
			sidential, fenced pasture, park, con pen pasture, row cropping, mining,		ow field. (3)	
13 210	M	etric 3. Hydrology		,		
max 30 pts. subtotal	] 3a.	Sources of Water. Score all that	apply. 3b	. Connectivity. Score all	that apply.	
		High pH groundwater (5) Other groundwater (3)		100 year floodpla	ain (1) /lake and other human use (1)	
		Precipitation (1)	(2)	Part of wetland/u	pland (e.g. forest), complex (1)	
		Seasonal/Intermittent surfa Perennial surface water (la		<ul> <li>Duration inundation/sat</li> </ul>	r upland corndor (1) uration.  Score one or dbl check.	
	Зс.	Maximum water depth. Select or >0.7 (27.6in) (3)	nly one and assign score.		ently inundated/saturated (4) ited/saturated (3)	
		0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1)	(2)	Seasonally inund	dated (2) rated in upper 30cm (12in) (1)	
	3e.	Modifications to natural hydrolog	c regime. Score one or double ch		ated in apper oboin (12m) (1)	
		None or none apparent (12 Recovered (7)	) Check all disturbances observe ditch	d point source (nor	nstormwater)	
		Recovering (3)	tile	filling/grading		
		Recent or no recovery (1)	dike weir	road bed/RR trac	ж	
	,		stormwater input	other		
11 37	M	etric 4. Habitat Al	teration and Devel	opment.		
max 20 pts. subtotal	4a.	Substrate disturbance. Score on	e or double check and average.			
		None or none apparent (4) Recovered (3)				
		Recovering (2) Recent or no recovery (1)				
	4b.	Habitat development. Select only	y one and assign score.			
		Excellent (7) Very good (6)		* *		
		Good (5)  Moderately good (4)				
		Fair (3) Poor to fair (2)				
		Poor (1)	Walk Walk Walk Control			
	4c.	Habitat alteration. Score one or one or one or one or one or one or one apparent (9)				
		Recovered (6)	mowing	shrub/sapling rer		
	24	Recovering (3) Recent or no recovery (1)	grazing	herbaceous/aqua sedimentation	auc ped removal	
27			selective cutting woody debris removal	dredging farming		
Subtotal this pa			toxic pollutants	nutrient enrichme	ent	
last revised 1 Februar	_	01 jjm				

Site: CYOOK	SVILL Philo Rat	er(s): Ku	Date: 5 20 20
subtotal first p	Metric 5. Special Wetla	ands.	W011-PEM-CATMOD2
0 01	_ ·		
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 wetlar Lake Erie coastal/tributary wetlar Lake Plain Sand Prairies (Oak O Relict Wet Prairies (10) Known occurrence state/federal t Significant migratory songbird/wa Category 1 Wetland. See Questi	nd-unrestricted hydrodrestricted hydropenings) (10) chreatened or endater fowl habitat or on 1 Qualitative R	angered species (10) Tusage (10) Rating (-10)
0 27	Metric 6. Plant commu	inities, int	erspersion, microtopography.
max 20 pts. subtotal	6a. Wetland Vegetation Communities.	Vocatation	Community Cover Scale
The state of the s	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
	Other	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Select only one.	Manatina D	acceletion of Variation Quality
	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	high	A predominance of native species, with nonnative spp
	Extensive >75% cover (-5)  Moderate 25-75% cover (-3)  Sparse 5-25% cover (-1)	A	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	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		High 4ha (9.88 acres) or more
	Standing dead >25cm (10in) dbh		Cours Cours
	Amphibian breeding pools		raphy 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
37		s <del>-</del>	and of highest quality

Site: Crusks	ulcethilo	Rater(s): KUV	Date: 5/20/20	)
	Metric 1. Wetland A	area (size).	V012-PEM-CATMOD2	
max 6 pts. subtotal	Select one size class and assign sco	re.		
THUX S PLOT	>50 acres (>20.2ha) (6 pts	)		
	25 to <50 acres (10.1 to <20 acres (4 to <10.1)			
	3 to <10 acres (1.2 to <4h	a) (3 pts)		
	0.3 to <3 acres (0.12 to <1			
	<0.1 acres (0.04ha) (0 pts			
12 13	Metric 2. Upland bu		_	
max 14 pts. subtotal	2a. Calculate average buffer width. WIDE. Buffers average 50	Select only one and assign score Im (164ft) or more around wetland	e. Do not double check. d perimeter (7)	
	MEDIUM. Buffers average	25m to <50m (82 to <164ft) arou	und wetland perimeter (4)	
	VERY NARROW. Buffers	je 10m_to <25m (32ft to <82ft) an average <10m (<32ft) around we	tland perimeter (0)	
	2b. Intensity of surrounding land use			
	LOW. Old field (>10 years	or older forest, prairie, savannah, ), shrub land, young second grow	vth forest. (5)	
		sidential, fenced pasture, park, co pen pasture, row cropping, mining	onservation tillage, new fallow field. (3)	
2 0-	Metric 3. Hydrology		g, 00/10/100/01/1 ( 1 )	
12 25	initial or rigarology	<b>,</b> -		
max 30 pts. subtotal	3a. Sources of Water. Score all tha	t apply,	3b. Connectivity. Score all that apply.  100 year floodplain (1)	
	High pH groundwater (5) Other groundwater (3)		Between stream/lake and other human us	se (1)
	Precipitation (1) Seasonal/Intermittent surfa	ace water (3)	Part of wetland/upland (e.g. forest), comp Part of riparian or upland corridor (1)	lex (1)
	Perennial surface water (la	ke or stream) (5)	3d. Duration inundation/saturation. Score one or db	check.
	3c. Maximum water depth. Select o	nly one and assign score.	Semi- to permanently inundated/saturated Regularly inundated/saturated (3)	1 (4)
	0.4 to 0.7m (15.7 to 27.6in	) (2)	Seasonally inundated (2)	
	<ul><li>&lt;0.4m (&lt;15.7in) (1)</li><li>3e. Modifications to natural hydrolog</li></ul>	ic regime. Score one or double of	Seasonally saturated in upper 30cm (12in check and average.	1) (1)
	None or none apparent (12	Complete entrall	ved	
	Recovered (7) Recovering (3)	ditch tile	point source (nonstormwater) filling/grading	
	Recent or no recovery (1)	dike	road bed/RR track	
		weir stormwater input	dredging other	
1 100	Metric 4. Habitat A	teration and Deve	lonment	
10 35	Wiethic 4. Habitat A	iteration and beve	siopinent.	
max 20 pts, subtotal	4a. Substrate disturbance. Score of			
	None or none apparent (4) Recovered (3)			
	Recovering (2) Recent or no recovery (1)			
	4b. Habitat development. Select on	ly 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.		
	None or none apparent (9			
	Recovered (6) Recovering (3)	mowing grazing	shrub/sapling removal herbaceous/aquatic bed removal	
	Recent or no recovery (1)	clearcutting	sedimentation	
25		selective cutting woody debris removal	dredging farming	
subtotal this pa	une.	toxic pollutants	nutrient enrichment	
last revised 1 Februa				

Site: C	rouk	Rater Rater	(s): KU		Date: 5 20 20
su	35 btotal first pa	1		W012-PEM-CATMOD	2
0	35	Metric 5. Special Wetlan	ids.		
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-t Lake Erie coastal/tributary wetland-r Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydrol nings) (10) eatened or enda fowl habitat or	logy (5) Ingered species (10) Usage (10)	
3	38	Metric 6. Plant commun	ities, inte	erspersion, microto	pography.
max 20 pls.	subtotal	J 6a. Wetland Vegetation Communities.	Vocatation	Community Cover Scale	
max 20 pta	350.00	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	(71 acres) continuous area
		Aquatic bed	- 1	Present and either comprises small	
		Emergent	*	vegetation and is of moderate q	
		Shrub		significant part but is of low qual	CASC .
		Forest	2	Present and either comprises sign	
			2		
		Mudflats		vegetation and is of moderate q	dailty or comprises a small
		Open water		part and is of high quality	
		Other	3	Present and comprises significant	-
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
		Select only one.			
		High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomin	nance of nonnative or
		Moderate (3)		disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant compone	ent of the vegetation,
		Low (1)		although nonnative and/or distu	rbance tolerant native spp
		None (0)		can also be present, and specie	s diversity moderate to
		6c. Coverage of invasive plants. Refer		moderately high, but generally v	v/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)	5	and/or disturbance tolerant nativ	
		Moderate 25-75% cover (-3)		absent, and high spp diversity a	
		Sparse 5-25% cover (-1)		the presence of rare, threatened	
		Nearly absent <5% cover (0)		are processed or tarry arrest	i, or learning arrest opp
		Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 ac	racl
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	
		O Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	acres
				riigit 41la (9.86 acres) of more	
		Standing dead >25cm (10in) dbh			
		Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if r of marginal quality	
			2	Present in moderate amounts, but quality or in small amounts of hi	
			3	Present in moderate or greater an	
			5	and of highest quality	nounts
20				and or highest quanty	

Site:Cv	rouks	sville th	10	Rater(s): KUV		Date: 5 20 20
		,	. Wetland A	rea (size)	W013-PEM-CAT	MOD2
2	2	INIGUIC I.	, wedana A	irea (Size).	WUIS-PEIVI-CAII	WIODZ
max 6 pts.	subtotal		class and assign sco acres (>20.2ha) (6 pts			
		25 to	<50 acres (10.1 to <2	20.2ha) (5 pts)		
			25 acres (4 to <10.1) 10 acres (1.2 to <4ha			
			0 <3 acres (0.12 to <1.0 <0.3 acres (0.04 to <			
		<0.1	acres (0.04ha) (0 pts)			
12	14	Metric 2.	. Upland bu	iffers and surro	unding land use	9.
max 14 pts.	subtotal			Select only one and assign so lm (164ft) or more around wet		
		MEDI	IUM. Buffers average	25m to <50m (82 to <164ft) a	around wetland perimeter (4)	
				e 10m to <25m (32ft to <82ft average <10m (<32ft) around		1)
		2b. Intensity of	surrounding land use	<ul> <li>Select one or double check or older forest, prairie, savanna</li> </ul>	c and average.	
		Low	. Old field (>10 years	), shrub land, young second g	rowth forest. (5)	U 5 11 (0)
				sidential, fenced pasture, parl pen pasture, row cropping, mi		allow field. (3)
16	30	1	Hydrology			
max 30 pts.	subtotal		Water. Score all that	apply	3b. Connectivity. Score	
			pH groundwater (5) r groundwater (3)		100 year flood Between strea	piain (1) m/lake and other human use (1)
		and the same of th	pitation (1) onal/Intermittent surfa	ice water (3)	- Contraction of the Contraction	d/upland (e.g. forest), complex (1) or upland corridor (1)
		Perer	nnial surface water (la	ke or stream) (5)	3d. Duration inundation/s	saturation. Score one or dbl check.
			vater depth.  Select or (27.6in) (3)	nly one and assign score.	-	anently inundated/saturated (4) dated/saturated (3)
		0.4 to	0.7m (15.7 to 27.6in) n (<15.7in) (1)	) (2)	Seasonally inu	indated (2) curated in upper 30cm (12in) (1)
				ic regime. Score one or doub		
			or none apparent (12 vered (7)	Check all disturbances obs		nonstormwater)
		Reco	vering (3)	tile	filling/grading	
		Recei	nt or no recovery (1)	dike	road bed/RR tr	rack
W				stormwater input	other	
0	28	Metric 4	. Habitat Al	teration and De	velopment.	
max 20 pts.	subtotal	4a Substrate d	listurhance Score or	ne or double check and averag	ne.	
		None	or none apparent (4)		<b>,</b>	
			vered (3) vering (2)			
			nt or no recovery (1)	y one and assign score.		
		Excel	lent (7)	y one and accign accion		
		Good	good (6)   (5)			
		Mode Fair (	rately good (4)			
		Poor	to fair (2)			
		Poor 4c. Habitat alte		double check and average.		
		_	or none apparent (9)			
		Reco	vered (6) vering (3)	mowing grazing	shrub/sapling r	removal guatic bed removal
ñ		Recei	nt or no recovery (1)	clearcutting selective cutting	sedimentation dredging	
	38			woody debris remova	al farming	
sub	total this pa	ge		toxic pollutants	nutrient enrich	ment

last revised 1 February 2001 jjm

Site: (	rooks	sville Philo	Rater(s): KW	Date: 5 20 20
.51	38 ubtotal first p	age	V	V013-PEM-CATMOD2
0	38	Metric 5. Special V	Vetlands.	
max 10 pts.	subtotal	Check all that apply and score as incomplete Bog (10) Fen (10) Old growth forest (10) Mature forested wetland ( Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (10) Known occurrence state/fi Significant migratory song Category 1 Wetland. See	5) vetland-unrestricted hydrology wetland-restricted hydrology (Oak Openings) (10) ederal threatened or enda bird/water fowl habitat or o	ngered species (10) usage (10) ating (-10)
0	38	Metric 6. Plant con	nmunities, inte	erspersion, microtopography.
max 20 pts.	subtotal	ار 6a. Wetland Vegetation Communiti	es. Vegetation (	Community Cover Scale
LIBRAMANA.		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Aquatic bed		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
			2	Present and either comprises significant part of wetland's
		Forest	2	
		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) Interspers	ion.	vegetation and is of high quality
		Select only one.		
		High (5)	Narrative De	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. Re	ofor	moderately high, but generally w/o presence of rare
		to Table 1 ORAM long form for list.		threatened or endangered spp
		_		A predominance of native species, with nonnative spp
		or deduct points for coverage	high	and/or disturbance tolerant native spp absent or virtually
		Extensive >75% cover (-5	•	11
		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	` '	200
		Absent (1)		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/tus		Moderate 1 to <4ha (2.47 to 9.88 acres)
		O Coarse woody debris >15	cm (6in) 3	High 4ha (9.88 acres) or more
		Standing dead >25cm (10	in) dbh	
		Amphibian breeding pools	Microtopogr	raphy 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
	1		J	and of highest quality
28			2	and or riightest quality

# **APPENDIX E**ODNR and USFWS Correspondence



From: Ohio, FW3 <ohio@fws.gov>

**Sent:** Wednesday, July 15, 2020 8:31 AM **To:** Kristen Vonderwish; Joshua Noble

**Cc:** nathan.reardon@dnr.state.oh.us; Parsons, Kate

**Subject:** AEP Crooksvills - Philo 138 kV Line Rebuild, Perry, Morgan, and

Muskingum Co

#### EXTERNAL E-MAIL MESSAGE



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



TAILS# 03E15000-2020-TA-1809

Dear Ms. Vonderwish,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (Myotis sodalis) and threatened northern long-eared bat (Myotis septentrionalis) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found 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 breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet 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, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal 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 removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is 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 <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), 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, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then 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 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. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (<a href="https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf">https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf</a>). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army 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. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or 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, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew,

Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

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

Sincerely,

Patrice M. Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW



### Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621 Fax: (614) 267-4764

September 17, 2020

Kristen Vonderwish GAI Consultants 6000 Town Center Blvd., Suite 300 Canonsburg, PA 15317

Re: 20-707; Crooksville - Philo 138 kV Line Rebuild Project

**Project:** The proposed Project involves rebuilding approximately 6.7 miles of the existing Crooksville – Philo 138 kV transmission line and the installation of a new switch at the Cannelville station.

**Location:** The proposed project is located in Perry, Morgan, and Muskingum Counties, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

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

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

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (Perimyotis subflavus), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq$  20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, sarah.stankavich@dnr.state.oh.us).

The DOW also recommends that a desktop or field-based habitat assessment is conducted to determine if there are potential hibernaculum(a) present within the project area. Habitat assessments should be conducted in accordance with the current USFWS "Range-wide Indiana Bat Survey Guidelines" and submitted to Sarah Stankavich, sarah.stankavich@dnr.state.oh.us if potential hibernacula are present within .25 miles of the project area. If a potential hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species:

#### Federally Endangered

fanshell (*Cyprogenia stegaria*) sheepnose (*Plethobasus cyphyus*) snuffbox (*Epioblasma triquetra*)

#### Federally Threatened

rabbitsfoot (Quadrula cylindrica cylindrica)

#### State Endangered

long-solid (Fusconaia maculata maculata) Ohio pigtoe (Pleurobema cordatum) sharp-ridged pocketbook (Lampsilis ovata) wartyback (Quadrula nodulata),

#### State Threatened

black sandshell (Ligumia recta)

fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*)

This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2020), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. The Ohio Mussel Survey Protocol (2020) can be found at: http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/licenses%20&%20permits/OH%20Mussel%20Su rvey%20Protocol.pdf

The project is within the range of the following listed fish species:

#### State Endangered

northern madtom (Noturus stigmosus)

#### State Threatened

American eel (Anguilla rostrata)
blue sucker (Cycleptus elongatus)
channel darter (Percina copelandi)
mountain madtom (Noturus eleutherus)
paddlefish (Polyodon spathula)

The DOW recommends no in-water work in perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

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

The project is within the range of the black tern (*Chlidonias niger*), a state endangered bird. The black tern prefers large, undisturbed inland marshes with fairly dense vegetation and pockets of open water. They nest in various kinds of marsh vegetation but cattail marshes are generally favored. Nests are built on top of muskrat houses or on top of floating vegetation. If this type of

habitat will be impacted, construction should be avoided in this habitat from April 1 to June 30 to reduce impacts to this species. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 to September 1. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List 8 16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <u>Sarah.Tebbe@dnr.state.oh.us</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)

## This foregoing document was electronically filed with the Public Utilities Commission of Ohio Docketing Information System on

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Case No(s). 24-0688-EL-BNR

Summary: Application Construction Notice Philo-Crooksville and Philo-Rutland, Part 2 of 2 electronically filed by Hector Garcia-Santana on behalf of Ohio Power Company.