

**AMERICAN TRANSMISSION SYSTEMS,
INCORPORATED
A FIRSTENERGY COMPANY**

LETTER OF NOTIFICATION

**KNOX-NOTTINGHAM 138 kV TRANSMISSION LINE
REBUILD PROJECT
KILGORE (POLO ROAD)-WASHINGTON SUB SEGMENT**

OPSB CASE NO.: 24-0646-EL-BLN

July 15, 2024

**American Transmission Systems, Incorporated
76 South Main Street
Akron, Ohio 44308**

LETTER OF NOTIFICATION
Knox-Nottingham 138 kV Transmission Line
Rebuild Project - Kilgore (Polo Road)-Washington Sub Segment

The following information is being provided in accordance with Chapter 4906-6 of the Ohio Administrative Code for the application and review of Accelerated Certificate Applications. Based upon the requirements found in Appendix A to Adm.Code 4906-1-01, this Project qualifies for submittal to the Ohio Power Siting Board (“Board”) as a Letter of Notification application.

4906-6-05: ACCELERATED APPLICATION REQUIREMENTS

4906-6-05(B)(1): Name and Reference Number

Name of Project: Knox-Nottingham 138 kV Transmission Line Rebuild Project – Kilgore (Polo Road)-Washington Sub Segment (“Project”).

Reference Number: 2031-2

4906-6-05(B)(1): Brief Description of the Project

In this Project, American Transmission Systems, Incorporated (“ATSI”), a FirstEnergy company, proposes to rebuild the approximate 11.3-mile Kilgore (Polo Road) to Washington Substation segment of the approximately 44-mile Knox-Nottingham 138 kV Transmission Line (“Kilgore (Polo Road)-Washington Substation Segment” or “Project”).

The Kilgore (Polo Road)-Washington Substation Segment extends from existing structure 332, the point of interconnection with American Electric Power (“AEP”), to existing structure 2861 (new structure 405), the point of interconnection with Carroll Electric Cooperative. The Project will traverse Perry, Lee, Center and Washington Townships in Carroll County, Ohio. The Project will be comprised of the following:

1. The Project will rebuild the existing wood pole H-frame structures, along the existing centerline, by using a combination of steel structures on concrete foundations or direct embed steel structures.

2. The existing conductor, 477 kmil 24/7 ACSR, will be replaced with 795 kmil 26/7 ACSR.

The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geological Survey, Carroll County. Exhibit 2 is a partial copy of ESRI aerial imagery. A general layout of the Project is shown in Exhibit 3.

In April 2021, representatives of ATSI met with technical and legal Staff of the Ohio Power Siting Board (“OPSB Staff”) to discuss ATSI’s 64-mile Knox-Nottingham Project, which is divided into two sections: the 44-mile Knox-Nottingham section and the 20-mile Holloway-Nottingham #1 and #2 section. The 44-mile Knox-Nottingham section is, in turn, divided into four segments, resulting in a total of five project segments. As noted below in section 4906-6-05(B)(2), there were several logistical aspects of the rebuild project that contributed to a joint decision between ATSI and OPSB Staff that the Project would be framed in accordance with each segment. Due to restrictions on construction, outage schedules, and the need to minimize service disruptions, the improvements required to fix deteriorating facility conditions cannot be completed in a single project and must be broken into segments. This Project is the 5th and final segment to be submitted to the OPSB. The breakdown of project segments is as follows:

- Knox to Washington Segment (Approved and certificated by the OPSB in Case No. 21-0667-EL-BLN)
- Kilgore (Polo Road) – New Stacy BUC Segment (Approved and certificated by the OPSB in Case No. 22-0285-EL-BLN)
- Holloway Sub to Nottingham Sub Segment (Approved and certificated by the OPSB in Case No. 23-0141-EL-BLN)
- New Stacy BUC-Nottingham Sub Segment (Approved and certificated by the OPSB in Case No. 23-1013-EL-BLN)

4906-6-05 (B)(1): Letter of Notification Requirement

The Project meets the requirements for a Letter of Notification because the Project is within the types of projects defined by Item (2)(b) of the Application Requirement Matrix for Electric Power Transmission Lines, Appendix A of Adm.Code 4906-1-01. This item states:

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

(b) More than two miles.

The proposed Project is within the requirements of Item (2)(b) as it involves replacing structures and conductor for a distance greater than two miles.

4906-6-05 (B)(2): Need for the Project

ATSI needs to rebuild all 64 miles of the Holloway to Knox 138 kV Transmission Line in light of deteriorating facility conditions and the growing amount of maintenance required to maintain the line. The primary benefit of the Project is to enhance system reliability through protection from unplanned outages, and to augment ATSI's operating flexibility as well as system resiliency by replacing deteriorating wood poles and by updating the existing conductor and shield wires. In turn, replacement of these facilities supports future load growth in the area for new and existing customers. Routine line inspections have shown an ever-increasing number of active conditions that require repair, leading to an overall worsened line condition. The most recent transmission line inspection conducted by a third-party contractor in April 2020, found that 57 of 74 structures (approximately

77%) of the Kilgore (Polo Road)-Washington Substation Segment were defective and pose reliability concerns.¹

Table 1– Pole Inspection Summary

Defect Type	Defect Count
Woodpecker Holes	39
Decay	15
Failed Sound Test	3

Wood poles are considered rejected when defects render a pole unsafe, unreliable, or non-compliant with current code, including the rejection of wood poles when the pole strength has been reduced to 2/3rd of the original design strength. This is consistent with the National Electrical Safety Code (“NESC”) Table 261-1, note 2, which states: “wood and reinforced structures shall be replaced or rehabilitated when deterioration reduces the structure strength to 2/3 of that required when installed...”

The primary reasons for structure rejection on this Project are damage caused by woodpeckers (a major maintenance concern for all wood poles), failed sound tests, and decay. Woodpecker holes cause structural degradation of varying severity, depending upon where on the structure the damage takes place. The standard maintenance procedures include filling the holes and wrapping the pole in a metal mesh to prevent further damage; however, woodpeckers typically return to a different location on the same pole or go to a different pole and the problem continues. If woodpecker damage occurs near a critical point on the structure, such as the x-brace or crossarm attachment points, the pole must be replaced. Ultimately, woodpeckers may return to cause the same type of damage. The proposed upgrade to steel structures eliminates this recurring maintenance issue.

¹ Similar structural problems are present along the entire Holloway-Knox 138 kV Transmission Line. However, as noted above, the improvements required to fix these deteriorating facility conditions cannot be completed in a single project and must be broken into segments, designed to accommodate construction sequencing, outage schedules, and the need to minimize service disruptions.

As part of this Project, ATSI proposes to upgrade the conductor to its standard of 795 kcmil 26/7 ACSR, which will allow for future load growth and generator connections, if any occur, while adding sufficient margins to the transmission system. The new proposed conductors meet FirstEnergy's current standard. Upgrading to the current standard will improve reliability and performance.

Lastly, the shield wires will be replaced with one 7#8 Alumoweld shield wire and one Optical Ground Wire ("OPGW") in the second position. Since 2016, it has been a FirstEnergy practice to include OPGW in one of the static wire positions for any transmission line rebuild project. This enables the modernization of grid protection and control communication between substations.

The need for the entire Knox-Nottingham project was first presented at the August 31, 2018 Subregional Regional Transmission Expansion Plan (SRRTEP) Committee Western meeting. A month later, on September 28, 2018, the proposed solution was presented and was assigned PJM supplemental RTEP number s1718. Since that time, the scope of the overall Project changed, including the rebuild of a portion of the Nottingham-Yager No. 1 138 kV Transmission Line. The Project was re-presented at the September 11, 2020 SRRTEP Committee Western meeting and assigned RTEP number s2389. The PJM SSRTEP-Western presentation slide from the 2020 meeting is included as Exhibit 4 and provides additional details of the project drivers.

4906-6-05(B)(3): Location of the Project Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2024 Long-Term Forecast Report. This map was submitted to the PUCO in Case No. 24-0504-EL-FOR under Rule 4901:5-5:04 (C)(2)(b) of the Ohio Administrative Code. The map is incorporated by reference only. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations including the Knox-Nottingham 138 kV Transmission Line. The Project is included on page 38 of the Long-Term Forecast Report

and is a part of the larger Holloway-Nottingham-Knox 138 kV Line Rebuild Project. The general location and layout of the project area is shown in Exhibits 1 and 2.

4906-6-05 (B)(4): Alternatives Considered

Due to the physical condition of the existing transmission line and nature of the Project, there were only two alternatives considered; replacement of only the identified failed structures, or a full rebuild.

Alternative 1:

Replace 57 failed wood H-frame structures on the Kilgore (Polo Road)-Washington Substation Segment with wood H-frame structures and re-use the existing conductor and shield wire. Includes construction of approximately 9.23 miles of access roads and restoration after replacement.

Alternative 2

Rebuild 11.3 miles of transmission line, consisting of replacing all existing wood pole structures with steel monopoles, replacing conductor with 795 kcmil 26/7 ACSR and replacing the shield wire with 7/8# Alumoweld shield wire and OPGW. Includes construction of approximately 11.2 miles of access roads and restoration after project completion.

Several factors were considered by ATSI in opting to rebuild the entire line rather than continuing to maintain the deteriorating facilities. These factors include:

Existing Wood Pole Condition

As described above, approximately 77% of the wood poles along the Kilgore (Polo Road)-Washington Substation Segment have physical damage and/or signs of deterioration. This percentage will only increase over time, resulting in multiple returns by maintenance and repair crews, increased impacts, and greater costs. Replacing all the wood poles with steel structures eliminates damage caused by woodpeckers, reduces maintenance, and extends the life of the facilities.

Conductor Replacement and Upgrade

ATSI proposes to replace and upgrade the conductor to ATSI's current standard of 795 kcmil 26/7 ACSR as part of the Project. As stated above, this upgrade would not be completed under the Alternative 1 scenario. Not only would replacement of the conductor upgrade the conductor to current standards, but replacement would also increase the line rating to 275 MVA (Summer Normal). The upgrade will improve reliability and performance, as well as support future load growth in the area. Replacing the conductor as part of this Project also eliminates the need for a complete reconductor project in the coming years, as the conductor is aging along with the rest of the facilities.

Communications

Although outside the scope of this application, this Project will also facilitate ATSI's replacing the existing shield wire with one 7#8 Alumoweld shield wire and one OPGW. With the addition of OPGW in the proposed Project, ATSI is able to modernize grid protection and control communications between substations. Because the installation method is identical to traditional shield wire, the cost per mile of adding OPGW is negligible compared to the return on the investment from a reliability and communications perspective. If pole replacement is completed under a maintenance approach, OPGW would not be installed, and a separate alternative fiber route may be required to meet communication enhancement needs.

Land Use and Sensitive Areas

As referenced above, the land use in the area of the Project is primarily rural residential, agricultural, and mining. Disruption to landowners and/or operators will be minimized pursuant to the proposed Project, as opposed to the multiple number of access times that would be necessary under the maintenance alternative. In cases where crops are planted, multiple access increases the potential for crop damage and payment for associated crop losses.

The United States Fish and Wildlife Service ("USFWS") and the Ohio Department of Natural Resources ("ODNR") identified the state and federally listed species that may

potentially be affected by the Project. Seasonal restrictions, along with avoidance and minimization measures, were identified to reduce impacts to these species.

Overall land-use impacts, including, but not limited to, crop and other environmental features, increase with multiple mobilizations as compared to a single construction project, as proposed. These impacts, along with the installation of barriers or matting and adhering to seasonal restrictions, lead to increased costs and complicate construction sequencing and outage coordination.

Safe and Reliable Service

ATSI has a duty to provide safe and reliable service to its customers and the condition of the Kilgore (Polo Road)-Washington Substation Segment presents a significant risk to ATSI's ability to meet this obligation. The Kilgore (Polo Road)-Washington Substation Segment serves multiple delivery points, including AEP's Kilgore (Polo Road) Substation and Carroll Electric Cooperative's Washington Substation. Should this section of line fail, customers served from the Kilgore (Polo Road) and Washington Substations would be out of service.

The best approach is, therefore, to completely rebuild the Kilgore (Polo Road)-Washington Substation Segment. ATSI believes that the rebuild project is the most cost-effective and least impactful approach to ensure ATSI's ability to continue to provide safe and reliable service to its customers.

4906-6-05(B)(5): Public Information Program

ATSI's manager of External Affairs will advise local officials of features and the status of the proposed Project as necessary. ATSI will maintain a copy of this Letter of Notification, along with other Project information, on FirstEnergy's website:

https://www.firstenergycorp.com/about/transmission_projects/ohio.html.

ATSI will publish notice of the Project in the Harrison News Herald within 7 days of filing this Letter of Notification application. The notice will comply with Adm.Code 4906-6-08(A)(1)-(6). In addition to the public notice, ATSI will mail letters in accordance with Adm.Code 4906-6-08(B) explaining the Project to affected landowners and tenants

and informing them of the Project’s anticipated construction and restoration activities sequencing, including the start date and overall time frame.

During all phases of this Project, the public may contact ATSI through the transmission projects hotline at 1-888-311-4737 or via email at:

transmissionprojects@firstenergycorp.com.

4906-6-05(B)(6): Construction Schedule

The construction schedule for this Project is expected to begin as early as October 2024 and is proposed to be completed/in-service by May 2025.

4906-6-05(B)(7): Area Map

Exhibit 1 depicts the general location of the Project. Exhibit 2 provides a partial copy of ESRI aerial imagery of the Project area.

4906-6-05(B)(8): Property Owner List

The Project is located on existing right-of-way. New temporary access rights may be required as part of the Project. Exhibit 5 contains a list of properties affected by the Project. As indicated in Exhibit 5, the Project is within existing right-of-way. Additional access rights will be acquired, if necessary.

4906-6-05(B)(9): TECHNICAL FEATURES OF THE PROJECT

4906-6-05(B)(9)(a): Operating Characteristics

The transmission line construction will have the following characteristics:

Voltage:	138 kV
Conductors:	795 kcmil 26/7 ACSR
Static Wire:	OPGW and 7#8 Alumoweld
Insulators:	Polymer and/or Porcelain
ROW Width:	150 feet (100-foot cleared corridor)
Land Requirements:	Access Rights

Structure Types: Exhibit 6: 138 kV Single Circuit Steel Pole, Suspension (approximately 47 Structures)

Exhibit 7: 138 kV Single Circuit Steel Pole, Deadend (approximately 10 Structures)

Exhibit 8: 138 kV Single Circuit Steel Pole, Strain (approximately 6 Structures)

Exhibit 9: 138 kV Single Circuit Steel H-frame, Strain (approximately 8 Structures)

Exhibit 10: 138 kV Single Circuit Steel Pole, Switch (approximately 2 Structures)

Exhibit 11: 138 kV Single Circuit Steel Pole, Tap (approximately 1 Structure)

4906-6-05(B)(9)(b): Electric and Magnetic Fields

As there are occupied residences or institutions within 150 feet from the existing transmission line centerline, Electric and Magnetic Field (“EMF”) calculations are required by this code provision.

4906-6-05(B)(9)(b)(i): Calculated Electric and Magnetic Fields Strength Levels

The Project is an approximately 11.3-mile single circuit 138kV transmission line located on 150-foot rights-of-way that does not share the right-of-way with any other transmission lines.

Table 1 itemizes the line loading of the Project. The normal line loading represents FirstEnergy’s peak system load for the transmission line. The emergency line loading represents the maximum line loading under contingency operation. The winter rating is based on the continuous maximum conductor rating (“MCR”) of the circuit for the single conductors per phase and an ambient temperature of zero degrees centigrade (32 °F), wind speed of 1.3 miles per hour, and a circuit design operating temperature of 100 °C (212 °F).

Table 1: Transmission Line Loading

Line Name	Normal Loading Amps	Emergency Loading Amps	Winter Rating Amps
Knox-Nottingham 138 kV Transmission Line	232	285	1192

Table 2 provides an approximation of the magnetic and electric fields strengths of the Knox-Nottingham 138 kV Transmission Line between tangent-to-tangent structures with conductors installed on suspension insulators. The calculations provide an approximation of the electric and magnetic fields levels based on specific assumptions utilizing the EPRI EMF Workstation 2015 program software. This program software assumes the input transmission line configuration is located on flat terrain. Also, a balanced, three-phase circuit loading is assumed for the transmission circuit. The model utilizes the normal, emergency, and winter rating of the transmission line.

Table 2: EMF Calculations for Knox-Nottingham 138 kV Transmission Line Tangent to Tangent Structures with Conductors Installed on Suspension Insulators

Knox-Nottingham 138 kV Transmission Line Tangent to Tangent Structures with Conductors Installed on Suspension Insulators, 150-foot ROW		Electric Field kV/m	Magnetic Field mG
Normal Loading	Under Lowest Conductors	0.397	10.22
	At Right-of-Way Edges	0.166 / 0.20	4.0 / 4.42
Emergency Loading	Under Lowest Conductors	0.397	12.56
	At Right-of-Way Edges	0.166 / 0.20	4.92 / 5.35
Winter Rating	Under Lowest Conductors	0.397	52.53
	At Right-of-Way Edges	0.166 / 0.20	20.57 / 23.20

Table 3 provides an approximation of the magnetic and electric fields strengths of the Knox-Nottingham 138 kV Transmission Line between tangent-to-tangent structures with conductors installed on suspension and strain insulators. The calculations provide an approximation of the electric and magnetic fields levels based on specific assumptions

utilizing the EPRI EMF Workstation 2015 program software. This program software assumes the input transmission line configuration is located on flat terrain. Also, a balanced, three-phase circuit loading is assumed for the transmission circuit. The model utilizes the normal, emergency, and winter rating of the transmission line.

Table 3: EMF Calculations for Knox-Nottingham 138 kV Transmission Line Tangent to Tangent Structures with Conductors Installed on Suspension and Strain Insulators

Knox-Nottingham 138 kV Transmission Line Tangent to Tangent Structures with Conductors Installed on Suspension and Strain Insulators, 150-foot ROW		Electric Field kV/m	Magnetic Field mG
Normal Loading	Under Lowest Conductors	0.476	13.21
	At Right-of-Way Edges	0.188 / 0.24	4.76 / 5.18
Emergency Loading	Under Lowest Conductors	0.476	16.23
	At Right-of-Way Edges	0.188 / 0.24	5.84 / 6.67
Winter Rating	Under Lowest Conductors	0.476	67.89
	At Right-of-Way Edges	0.188 / 0.24	24.44 / 26.65

4906-6-05(B)(9)(b)(ii): Alternative Design Consideration for Electric and Magnetic Fields

The strength of EMFs can potentially be reduced by installing the transmission line conductors in a compact configuration by selecting conductor phasing that reduces the field strengths. ATSI designs its facilities according to the requirements of the NESC. The pole heights and configuration were chosen based on NESC specifications, engineering parameters, and cost. In this Project ATSI proposes to install 138 kV transmission lines primarily on single-circuit steel pole tangent structures with conductors supported on suspension and strain insulators.

4906-6-05(B)(9)(c): Estimated Cost

The estimated capital cost for the proposed Project is approximately \$25,992,000. Although not statutorily required for approval, but at the request of OPSB Staff, ATSI

confirms that ATSI's costs will be captured and allocated via FERC formula rates for the ATSI Transmission Zone, Attachment H-21 in the PJM OATT.

4906-6-05(B)(10): SOCIAL AND ECOLOGICAL IMPACTS

4906-6-05(B)(10)(a): Land Uses

The Project is located in Perry, Lee, Center and Washington Townships, Carroll, Ohio. The land uses in the area of the Project are primarily rural residential, agricultural, and mining.

4906-6-05(B)(10)(b): Agricultural Land

Although the Project crosses lands used for agricultural purposes, there are no parcels listed as agricultural district land (see Exhibit 5).

4906-6-05(B)(10)(c): Archaeological or Cultural Resources

As part of the investigation for this Letter of Notification, Jacobs Engineering Group Inc. (Jacobs) submitted a request to the Ohio Historic Preservation Office ("SHPO") on behalf of ATSI to review and provide comments on the larger Holloway-Knox 138kV Transmission Line Project in August 2020. On September 16, 2020, SHPO replied to the request, and the response is attached as Exhibit 12. SHPO concurred that the Project, as proposed, will not affect any historic properties. No further coordination is required unless the scope of work changes or archaeological deposits are discovered during the course of construction.

Due to periodic updates to the SHPO database, additional review of the available records was necessary. The SHPO database includes all Ohio listings on the National Register of Historic Places ("NRHP"), including districts, sites, building, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. An updated review of the records available through the SHPO database was performed on May 14, 2024.

The SHPO database also includes the Ohio Historic Inventory (“OHI”), the Ohio Archaeological Inventory (“OAI”), previous cultural resource surveys, and the Ohio Genealogical Society (“OGS”) cemetery inventory. Sixteen (16) Ohio Historical Inventory (OHI)-listed resources, three (3) Ohio Genealogical Society (OGS)-listed cemeteries, and thirteen (13) Ohio Archaeological Inventory (OAI)-listed archaeological sites were identified within one mile of the Project. Additionally, twenty (20) previous archaeological investigations have been documented within one mile of the Project. Of the total thirty-two (32) cultural resources inventoried within the Project study area, none are located within the Project ROW.

The sixteen (16) OHI-listed resources within one mile of the Project include ten (10) single-family dwellings, two (2) agricultural resources, three (3) vacant buildings, and one funerary site. None of the above-ground resources are within the Project ROW. The closest OHI-listed above-ground resource is CAR0032313, also known as the Brandt House, located approximately 0.10 miles from the project area. The resource is not located next to any existing pole locations and no adverse effect on the Brandt House is expected. The sixteen OHI-listed resources are listed in Table 4.

Table 4. OHI-Listed Resources within the Phase 2 Study Area

ID Num	Resource Name	Style	Use	Date	Distance from Project
CAR0001713	Swager House	Vernacular	Single Dwelling	1845	0.66 miles
CAR001913	Hearn House	Greek Revival	Single Dwelling	1830	0.51 miles
CAR0019906	E. Tyler Flannery House	Greek Revival	Single Dwelling	1840	0.25 miles
CAR0023510		Greek Revival	Single Dwelling	1840	0.77 miles
CAR0025111	Long House	Italianate	Single Dwelling	1880	0.20 miles
CAR0032113		Queen Anne	Single Dwelling	1870	0.24 miles
CAR0032313	Brandt House	Italianate	Single Dwelling	1892	0.10 miles
CAR0034214	H Cogsill House	Greek Revival	Single Dwelling	1845	0.56 miles
CAR0034313	H Cogsill Outbuilidng	Gothic Revival	Barn	1890	0.51 miles
CAR0051013	Kisamore Barn	Vernacular	Barn	1840	0.26 miles

CAR0051413	M Amos House	Not discernable	Vacant	1840	0.83 miles
CAR0051911	Vernon Cogsil House	Vernacular	Vacant	1845	0.68 miles
CAR0052213	Walters Deep Mines	Vernacular	Vacant	1920	0.51 miles
CAR0072611	Dobrijevic Farm	Colonial Revival	Single Dwelling	1875	0.31 miles
CAR0074907	Stuller Cemetery	Other	Funerary	1849	0.66 miles
CAR0076006	Larry & Marilyn Wagner House	Vernacular	Single Dwelling	1946	0.98 miles
Source: Ohio Historic Preservation Office 2024					

The thirteen (13) OAI-listed archaeological sites within one mile of the Project include six (5) prehistoric era, seven (7) historic era sites, and one (1) multicomponent site. None of the archaeological sites are within the Project ROW. The closest site to the ROW is site CA0449, a multicomponent site of unknown temporal period approximately 323 feet east of the ROW. The site CA0449s NRHP status is currently unknown and will not be affected by the Project. The thirteen OAI-listed archaeological sites are listed in Table 5.

Table 5. OAI-listed Archaeological Sites within the Phase 2 Study Area

Site Number	Site Name	Cultural Affiliation	Site Type	Distance from Project
CA0021	N/A	Prehistoric	Unknown	0.43 miles
CA0044	N/A	Historic	19th-20th century	0.76 miles
CA0045	N/A	Prehistoric	Unknown	0.60 miles
CA0046	N/A	Historic	Unknown	0.44 miles
CA0047	N/A	Historic	Residential	0.82 miles
CA0060	N/A	Prehistoric	Unknown	0.60 miles
CA0297	N/A	Historic	Residential	0.10 miles
CA0412	N/A	Prehistoric	Unknown	0.27 miles
CA0413	N/A	Historic	Residential	0.37 miles
CA0419	N/A	Historic	Residential	0.31 miles
CA0445	N/A	Historic	Subsistence	0.68 miles
CA0449	N/A	Prehistoric and Historic	Unknown	323 feet
CA0453	N/A	Prehistoric	Unknown	0.59 miles
Source: Ohio Historic Preservation Office 2024				

None of the three (3) OGS cemeteries, Arabia-(Arabian) Cemetery (1454), Lee Cemetery (1428), and Stoller-(Stuller) Cemetery (1473), are located within the Project ROW. The closest resource to the ROW is Stoller-(Stuller) Cemetery (1473) located on a private driveway, off Highway 44. The cemetery is approximately 0.70 miles northwest of the ROW and will not be affected by the Project.

Three (3) of the twenty (20) previous archaeological surveys intersect the Project ROW. The two surveys consist of a 1999 investigation in support of a proposed strip mine area project, and two 2021 investigations in support of the Carrollton-Gable 138 kV Line Rebuild Project. The previous cultural resource surveys are listed in Table 6.

Table 6. Previous Cultural Resources Surveys within the Phase 2 Study Area

Report No.	Author(s)	Title
N/A	Baker, Stanley W. et al	An Archaeological Assessment of Car-39-16.81/17.18, Two Bridge Replacements, in Center Township, Carroll County, Ohio. (P.F. 1415)
N/A	McDaniel, Gary & Shaune M. Skinner	Phase I and II Cultural Resource Survey: Proposed Regal Strip Mining Tract, Perry Township, Carroll County, Ohio (Permit Application #D-0682-2)
N/A	Murphy, James L.	A Phase I and Phase II Archaeological Survey of a Proposed Strip Mining Project Area in Lee Township, Carroll County, Ohio
N/A	Murphy, James L.	A Phase I Archaeological Survey of a Proposed Strip Mine Area in Lee and Perry Townships, Carroll County, Ohio
N/A	Beamer, Herb & Bryan Lee	Literature Review and Archaeological Survey for Portions of the Regal Mining, Inc. Mining Permit #1243 in Perry Township, Carroll County, Ohio
N/A	Murphy, James L.	A Phase I and Phase II Archaeological Survey of a Proposed Strip Mine Area in Lee Township, Carroll County, Ohio, Permit Application No. D-0749-1
N/A	McDaniel, Gary & John R. Wright	Phase I and II Cultural Resource Survey: Proposed Regal Mining Strip Mining Tract, Perry, Union and Lee Townships, Carroll County, Ohio (Permit Application #D-0628-4)
N/A	Murphy, James L.	A Phase I Archaeological Survey of a Portion of a Proposed Strip Mine Area in Lee Township, Carroll County, Ohio, Permit Application No. D-1035-1

Report No.	Author(s)	Title
N/A	Murphy, James L.	A Phase I Archaeological Survey of a Proposed Strip Mine Area in Perry Township, Carroll County, Ohio. Permit Application No. 1441.
N/A	Keener, Craig S.	Phase I Cultural Resource Management Survey of a Proposed 41.6 ha (102.8 a.) Permit Application, #D-2014-2, in Lee and Union Townships, Carroll County, Ohio
N/A	Keener, Craig S.	Phase I Cultural Resource Management Survey of a Proposed Cell Tower (CLE-634-Stemples East) in Washington Township, Carroll County, Ohio
N/A	Keener, Craig S.	Phase I Cultural Resource Management Survey of a Proposed Cell Tower (CLE-633-Eckley South) in Washington Township, Carroll County, Ohio
2013CAR24620	Jacoby, Robert	Phase I Archaeological Survey for Carroll County Energy, Washington Township, Carroll County, Ohio
2013CAR24620	Marshall, Sydne & Rob Jacoby	Phase I Archaeological Survey for (93 acres) Carroll County Energy, Washington Township, Carroll County, Ohio
2015CAR30337	Weller, Ryan J. & Chris Nelson	Phase I Cultural Resource Management Survey for the Proposed Kilgore Carroll OH Wireless Cellular Tower in Perry Township, Carroll County, Ohio
2015CAR30929	Gullett, Catherine & Brown, Joel	Phase I Archaeological Survey for Eckley CNTN-139 Wireless Cellular Tower in the Village of Carrollton, (Washington Township), Carroll County, Ohio (CTL#145810952 COLA; EnSite No. 22568)
2015CAR33705	Jackson, Ryan L.	Phase I Archaeological Survey McClure Well Pad Project, Center Township, Carroll County, Ohio
2016CAR36380	Meyer-Landis, Elaine & Brown, Joel	Phase I Archaeological Survey for the STC338-OH Eckley / CLTN-139 / Moore Wireless Cellular Tower in Washington Township, Carroll County, Ohio (CTL# 16510215COLA)
2020CAR49361	Weller, Ryan J.	Phase I Archaeological Investigations for 46.8 km (29.1 mi) Carrollton-Gable 138kV Line Rebuild Project in Carroll, Jefferson, and Harrison Counties, Ohio
2020CAR49361	Weller, Ryan J.	Addendum Archaeological Investigations for 46.8 km (29.1 mi) Carrollton-Gable 138kV Line Rebuild Project in Carroll, Jefferson, and Harrison Counties, Ohio

Based upon this updated review, the Project will not impact any historic properties. Because the Project will rebuild an existing transmission line, no increases to the line’s visibility are anticipated. Consequently, Jacobs recommends that no further archaeological investigations are necessary.

4906-6-05(B)(10)(d): Construction Filings with Local, State and Federal Governmental Agencies

Table 7 shows the list of government agency requirements for the Project.

Table 7. List of Government Agency Requirements.

Governmental Agency	Documents
Ohio Environmental Protection Agency (OEPA)	General NPDES Construction Storm Water Permit OHC000006
Carroll County Soil and Water Conservation District	Storm Water Pollution Prevention Plan (SWP3) – Review Application
Carroll County Emergency Management Agency	Floodplain Development Review
Ohio Department of Transportation; Carroll County; Center, Lee, and Perry Townships	Driveway Entrance Permits (MR 505, Driveway Permit for Construction within the County Right-of-Way Limits)
Carroll County; Center, Lee, and Perry Townships	Special Hauling Permit and Road Use Maintenance Agreement (RUMA)
Ohio Environmental Protection Agency (OEPA)	General NPDES Construction Storm Water Permit OHC000006
Carroll County Soil and Water Conservation District	Storm Water Pollution Prevention Plan (SWP3) – Review Application

4906-6-05 (B)(10)(e): Endangered, Threatened, and Rare Species Investigation

As part of the investigation, ATSI retained Jacobs to conduct necessary surveys. Jacobs submitted a request to the Ohio Department of Natural Resources (“ODNR”) Office of Real Estate to conduct an Environmental Review. As part of the Environmental Review, the ODNR Office of Real Estate conducted a search of the ODNR Division of Wildlife’s Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project Study Area. The ODNR’s Office of Real

Estate’s response on February 7, 2023, stated that there are two (2) state endangered species, three (3) state threatened species, two (2) state species of concern and a mussel bed within a one (1) mile radius of the Project area. Additionally, within range of the project area, there are: one (1) state and federally endangered species; one (1) state endangered and federally threatened species; one (1) state endangered and federal species of concern; six (6) state endangered species; and three (3) state threatened species. A copy of ODNR’s response is included as Exhibit 13.

As part of the investigation, Jacobs also submitted a request to the U.S. Fish and Wildlife Service (“USFWS”) for an Ecological Review to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project area. A copy of USFWS’s Ecological Review response, dated January 26, 2023, is included as Exhibit 14. The response indicated the federal and state endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) are within the range of the Project. A list of all endangered species, threatened species and species of concern identified by ODNR and USFWS is provided in Table 8.

Table 8. List of Endangered, Threatened, and Rare Species

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Mammals				
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Trees and forests
Northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	Endangered	Trees and forests
Little brown bat	<i>Myotis lucifugus</i>	NA	Endangered	Trees and forests
Tricolored bat	<i>Perimyotis subflavus</i>	NA	Endangered	Trees and forests
Birds				
Upland sandpiper	<i>Bartramia longicauda</i>	NA	Endangered	Grasslands
Northern harrier	<i>Circus cyaneus</i>	NA	Endangered	Marshes and grasslands
Sharp-shinned hawk	<i>Accipiter striatus</i>	NA	Species of Concern	Forests and agricultural

Barn owl	<i>Tyto alba</i>	NA	Threatened	Forests and agricultural
Amphibians				
Eastern hellbender	<i>Cryptobranchus alleganiensis</i>	Species of Concern	Endangered	Streams
Mussels				
Butterfly	<i>Ellipsaria lineolata</i>	NA	Endangered	Streams
Slippershell mussel	<i>Alasmidonta viridis</i>	NA	Threatened	Streams
Creek heelsplitter	<i>Lasmigona compressa</i>	NA	Species of Concern	Streams
Fish				
Western banded killifish	<i>Fundulus diaphanus menona</i>	NA	Endangered	Streams
Channel darter	<i>Percina copelandi</i>	NA	Threatened	Streams
Paddlefish	<i>Polyodon spathula</i>	NA	Threatened	Streams
River darter	<i>Percina shumardi</i>	NA	Threatened	Streams
Plants				
Drummond's aster	<i>Symphotrichum drummondii</i>	NA	Threatened	Forest openings

The response from ODNR and USFWS indicated the Project is within range of: the federal and state endangered Indiana bat (*Myotis sodalis*); the federal and state endangered northern long-eared bat (*Myotis septentrionalis*); the federal and state endangered little brown bat (*Myotis lucifugus*); and the state endangered tricolored bat (*Perimyotis subflavus*). Project construction will primarily occur within the existing 100-foot-wide ROW; however, minor tree clearing may be necessary for portions of the Project. Trees adjacent to the existing ROW that are dead, dying, diseased, leaning, significantly encroaching, or prone to failure may require clearing to allow for safe operation of the transmission line. ATSI will utilize existing access roads and non-forested areas for any proposed access roads for the Project. Minor tree limb trimming may be needed along existing access roads in order to widen the access to the appropriate width required for construction equipment. To mitigate any potential bat roosting habitat impacts, any tree

clearing needed for the Project will occur between October 1st and March 31st to minimize impacts to these species. Therefore, no adverse effect to these bat species is anticipated.

Jacobs conducted a desktop habitat assessment to determine if there are potential hibernacula present within 0.25-mile the Project area. Jacobs followed the current USFWS “Range-wide Indiana Bat Survey Guidelines” when conducting this assessment and utilized data obtained from the ODNR Mines of Ohio Viewer, ODNR geologic maps, topographic maps, and aerial photographs. During the desktop analysis, no potential karst features were identified within 0.25-mile of the Project area. Two locations of abandoned mines (where the mine point extent was unknown) were noted within 0.25 miles of the Project area, located east of Pomona Road in the southern portion of the Project. During the May 2024 field survey of this area, Jacobs’ biologist noted that the area was a scrub-shrub covered hillside and did not observe any signs of former mine openings. In addition to the field survey, coordination with ODNR and USFWS did not identify any known bat hibernacula within a one-mile radius of the Project. Based on the desktop habitat review and the results of the field survey, it does not appear likely that any potential hibernacula exist within 0.25-mile of the Project area.

The response from ODNR indicated the Project is within range of the northern harrier (*Circus cyaneus*), a state endangered bird. Impacts to large marshes and grasslands should be avoided during the nesting period of April 15th to July 31st.

The response from ODNR indicated the Project is within range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Impacts to dry grasslands, including native grasslands, seeded grasslands, hayfields, and grazed and un-grazed pastures, should be avoided during the nesting period of April 15th to July 31st.

The response from ODNR indicated the Sharp-shinned hawk (*Accipiter striatus*), a state species of concern bird, and the barn owl (*Tyto alba*), a state threatened bird, have been

observed within one-mile of the Project area. No sightings or nests of these species were observed during the environmental surveys of the Project.

The response from ODNR indicated the Project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis*), a state endangered salamander and federal species of concern. No impact to this species is expected due to the Project's location and no in-stream work is proposed.

The response from ODNR indicated the Project is within the range of three state-listed mussels: the butterfly (*Ellipsaria lineolata*, state endangered); slippershell mussel (*Alasmidonta viridis*, state threatened); and creek heelsplitter (*Lasmigona compressa*, state species of concern). No impacts to these species are expected due to the Project's location and because no in-stream work is proposed.

The response from ODNR indicated the Project is within the range of four state-listed fish: the western banded killifish (*Fundulus diaphanus menona*, state endangered); channel darter (*Percina copelandi*, state threatened); paddlefish (*Polyodon spathula*, state threatened); and river darter (*Percina shumardi*, state threatened). No impacts to these species are expected because no in-stream work is proposed.

At the time of the field surveys, Jacobs' biologists documented land use and general habitats along the Project area. Based on ODNR-DOW guidance and the field survey, the majority of the Project area is agricultural land or maintained ROW areas surrounded by woodlot, which are not considered suitable habitat for the northern harrier or upland sandpiper. However, several portions of the Project do contain hayfields identified as potentially suitable habitat for these grassland nesting bird species. This habitat assessment, provided to the ODNR in follow-up correspondence, received concurrence on July 11, 2024, that the avoidance/minimization measures as proposed are sufficient in minimizing impacts to listed species, including birds and bats for the Project and is included as Exhibit 13A.

ATSI confirms that the installation of the access roads and work pads within any identified grassland habitat areas will take place outside of the corresponding seasonal nesting restrictions. If construction would be needed within the seasonal restricted months, ATSI has indicated that timber matting would be installed along these areas before April 15th, 2025, to avoid impacts to these potential nesting bird species by inhibiting nesting within those work areas.

Jacobs will be submitting a follow up letter to ODNR addressing comments regarding the Project. Jacobs is presently mapping the various habitats within the Project's disturbance area to identify any areas of concern relating to the above-listed species. Coordination with ODNR will continue to evaluate appropriate avoidance and minimization measures, including, but not limited to, sequencing construction activities to address seasonal restrictions to reduce potential impacts.

4906-6-05(B)(10)(f): Areas of Ecological Concern

Jacobs conducted a wetland and stream delineation for this Project in April and May 2024, as shown in Exhibit 15. The environmental survey boundary ("ESB") consists of approximately 11.5-miles of existing transmission line corridor, access roads, and work areas. The Project is located in Carroll County starting north of Cobbler Road NE (40.622370, -81.042573), and extending south to its terminus located north of Pomona Road (40.456873, -81.049261).

A total of 26 wetlands, 35 streams and five ponds were delineated within the Project's ESB. The 26 wetlands, totaling 5.10 acres within the ESB, were all identified as Palustrine Emergent ("PEM") wetlands. Of the 26 wetlands, 17 wetlands were identified as Category 1 wetlands, and nine wetlands were identified as Category 2 wetlands. No Category 3 wetlands were identified within the ESB. Thirty-five streams, totaling 5,175 linear feet identified within the Project ESB, include 13 ephemeral streams, 13 intermittent streams, and nine perennial streams. Thirty streams were assessed using the Headwater Habitat Evaluation ("HHEI") methodology (drainage area less than one square mile) and five streams were assessed using the Qualitative Habitat Evaluation Index ("QHEI")

methodology (drainage area greater than one square mile). Additionally, five ponds were identified within the Project ESB that totaled 0.81 acres.

Through the initial design phase, ATSI avoided the placement of structures and access roads within wetlands to the extent practical. No proposed structures will be placed within wetlands along the Project; therefore, no permanent impacts to wetlands are anticipated. There are 9 unavoidable PEM wetlands that will be temporarily disturbed by access roads and/or work pads. In these areas, a total of approximately 0.89 acre of wetlands will be temporarily disturbed during construction by the installation of timber matting for access road crossings and work pads. Temporarily disturbed wetland areas will be restored to pre-construction contours and the site will be stabilized and seeded after construction as needed. All streams will be crossed above the ordinary high-water mark to avoid impacts and no in-stream work is proposed for the Project. Additionally, ATSI will utilize best management practices to avoid any indirect impact to streams and wetlands through its use of erosion and sediment controls. Streams will either be avoided or bridged (no work below the ordinary high-water mark), and wetlands will be traversed using low ground pressure equipment and/or matted through.

Additionally, a review of the online FEMA Flood Insurance Rate Mapping was performed. Some Project work limits in Carroll County are located within a regulated floodplain. Jacobs will consult with Carroll County Floodplain Administrator for floodplain development review if required.

4906-6-05(B)(10)(g): Other Information

Construction and operation of the proposed Project will be in accordance with the requirements specified in the latest revision of the NESC as adopted by the PUCO and will meet all applicable safety standards established by the Occupational Safety and Health Administration.

No other or unusual conditions are expected that will result in significant environmental, social, health or safety impacts.

4906-6-07: Documentation of Letter of Notification Transmittal and Availability for Public Review

ATSI is providing this Letter of Notification to the following officials concurrently with its docketing with the Board:

Carroll County

Donald E. Leggett II
Carroll County Commissioner
119 S. Lisbon St., Suite 201
Carrollton, Ohio 44615
Email-
dleggett@carrollcountyohio.us

Christopher R. Modranski
Carroll County Commissioner
119 S. Lisbon St., Suite 201
Carrollton, Ohio 44615
Email:
cmodranski@carrollcountyohio.us

Robert E. Wirkner
Carroll County Commissioner
119 S. Lisbon St., Suite 201
Carrollton, Ohio 44615
Email:
rwirkner@carrollcountyohio.us

Brian J. Wise, P.E., P.S.
Carroll County Engineer
200 Kensington Road N.E.
Carrollton, Ohio 44615
Email: bwise@carrollcountyohio.us

Mr. Tom Konst, Director
Carroll County Regional Planning
Commission
119 South Lisbon Street, Suite 201
Carrollton, OH 44615
Email: tkonst@carrollcountyohio.us

Ms. Amanda Tubaugh, District
Admin.
Carroll County Soil & Water District
1029 Countryside Dr. NW
Carrollton, Ohio 44615
Email:
amanda.tubaugh@carrollswcd.org

Perry Township

Calvin Logan
Perry Township Trustee
154 Amsterdam Rd. SW
Scio, Ohio 43988

Paul Rich
Perry Township Trustee
154 Amsterdam Rd. SW
Scio, Ohio 43988

Gary Staten
Perry Township Trustee
154 Amsterdam Rd. SW
Scio, Ohio 43988

Jessica Ujcich
Perry Township Fiscal Officer
154 Amsterdam Rd. SW
Scio, Ohio 43988
Email: perrytwpfo@gmail.com

Lee Township

Charles Knox
Lee Township Trustee
3160 Apollo Rd. SE
Carrollton, Ohio 44615

Karl Moore
Lee Township Trustee
3160 Apollo Rd. SE
Carrollton, Ohio 44615

Dale Tinlin
Lee Township Trustee
3160 Apollo Rd. SE
Carrollton, Ohio 44615

Nancy Knox
Lee Township Fiscal Officer
3160 Apollo Rd. SE
Carrollton, Ohio 44615
Email: Nknox14@yahoo.com

Center Township

Beau Brace
Center Township Trustee
419 4th St. SE
Carrollton, Ohio 44615

Tom Fry
Center Township Trustee
419 4th St. SE
Carrollton, Ohio 44615

Matt Manfull
Center Township Trustee
419 4th St. SE
Carrollton, Ohio 44615

Carolyn Leggett
Center Township Fiscal Officer
419 4th St. SE
Carrollton, Ohio 44615
Email:
cleggettcentertwp20@gmail.com

Washington Township

Darrell Shafer
Washington Township Trustee
3097 Cobbler Rd. NE
Carrollton, Ohio 44615
Email: shaferdarrell@yahoo.com

Zachary Campbell
Washington Township Trustee
3097 Cobbler Rd. NE
Carrollton, Ohio 44615

Rodney Days
Washington Township Trustee
3097 Cobbler Rd. NE
Carrollton, Ohio 44615

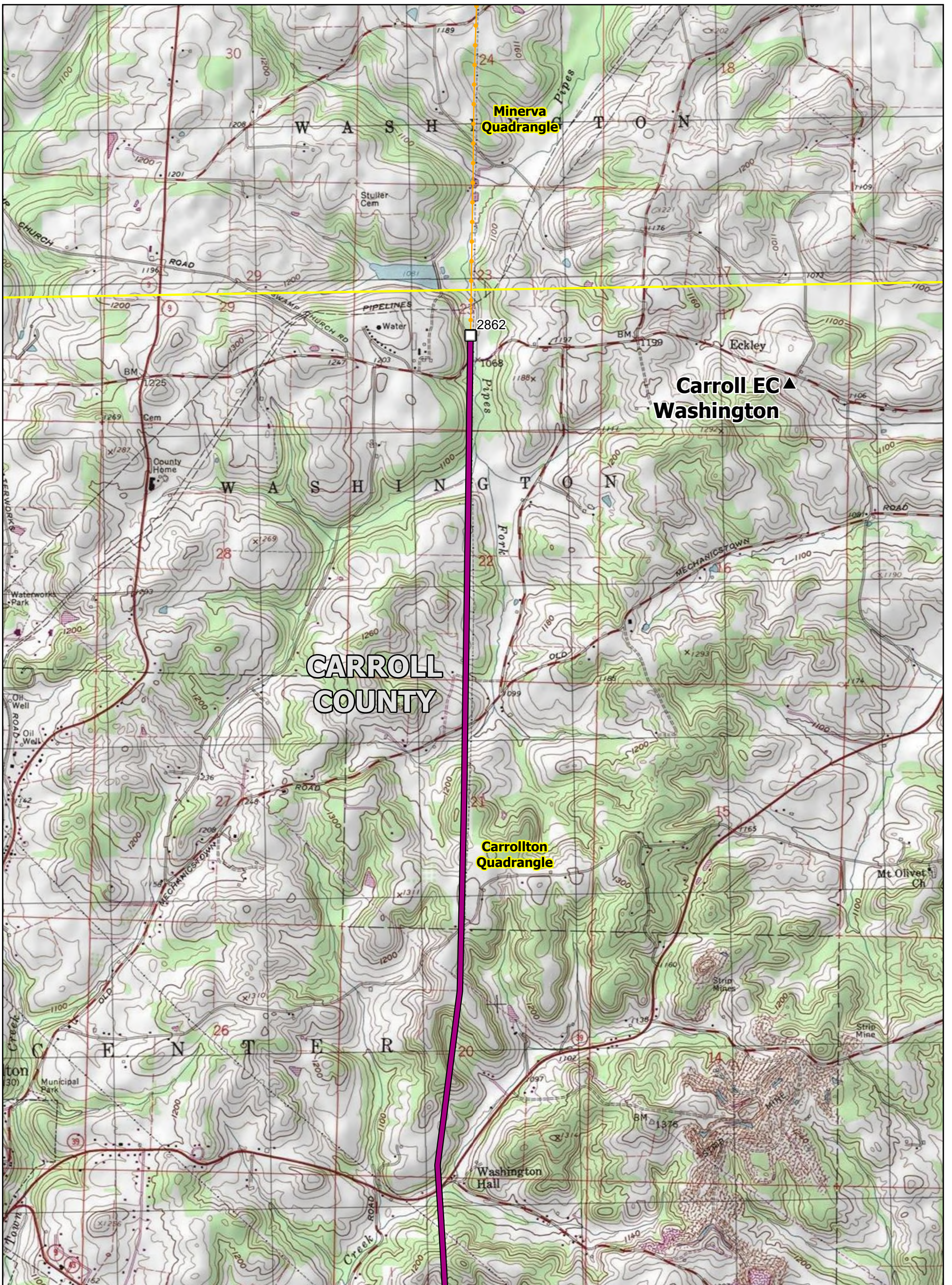
Connie Days
Washington Township Fiscal Officer
3097 Cobbler Rd. NE
Carrollton, Ohio 44615
Email: washclerk@aol.com

Library

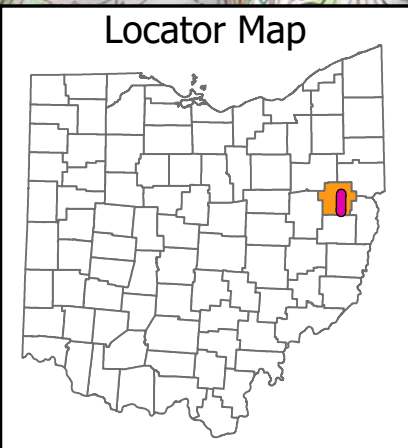
Ms. Ellen Finnicum, Director
Carroll County District Library
70 2nd Street Northeast
Carrollton, OH 44615
Email: info@carrolllibrary.org

Copies of the transmittal letters to these officials have been included with this application as proof of compliance under Adm.Code 4906-6-07(B) to provide the Board with proof of notice to local officials as required by Adm.Code 4906-6-07(A)(1) and to libraries per Adm.Code 4906-6-07(A)(2).

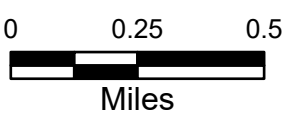
Information is posted at: www.firstenergycorp.com/about/transmission_project/ohio.html on how to request an electronic or paper copy of this Letter of Notification application. The link to this website is being provided to meet the requirements of Adm.Code 4906-6-07(B) and to provide the Board with proof of compliance with the notice requirements in Adm.Code 4906-6-07(A)(3).



- Legend**
- ▲ Substation
 - Existing Structure
 - Existing Transmission Line
 - Washington-Kilgore (Polo Road) - Phase 2
 - Topographical Quadrangle Boundary



BASE MAP SOURCE:
USGS topo Map



Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

**Exhibit 1
TOPOGRAPHIC OVERVIEW MAP**

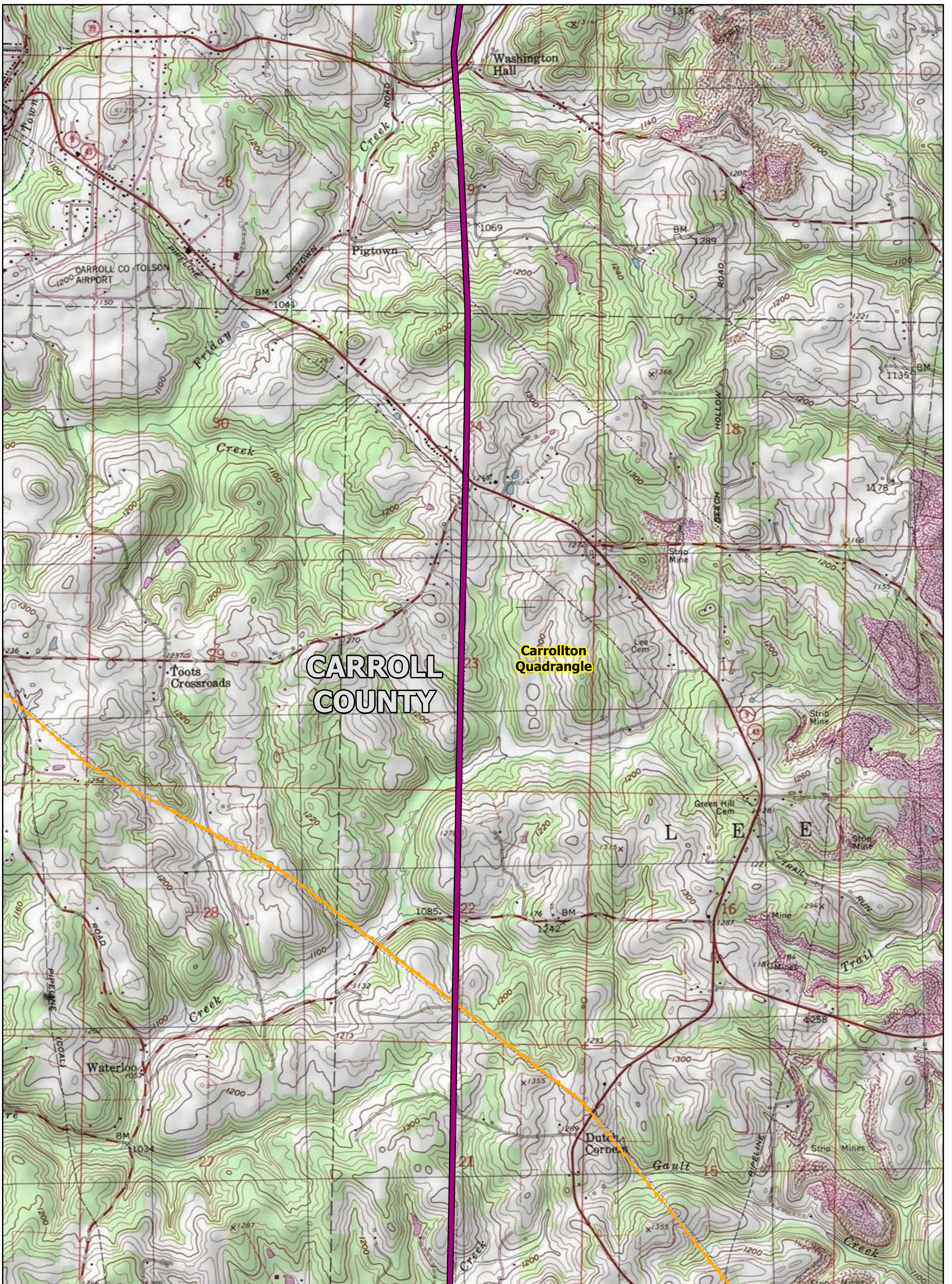
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REVIEWED BY: BO





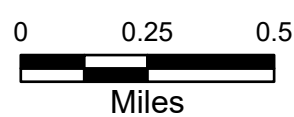
Legend

- Existing Transmission Line
- Washington-Kilgore (Polo Road) - Phase 2
- Topographical Quadrangle Boundary

Locator Map



BASE MAP SOURCE:
USGS topo Map



ATSI[®]

American Transmission Systems, Inc.
a subsidiary of FirstEnergy Corp.

Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

Exhibit 1
TOPOGRAPHIC OVERVIEW MAP

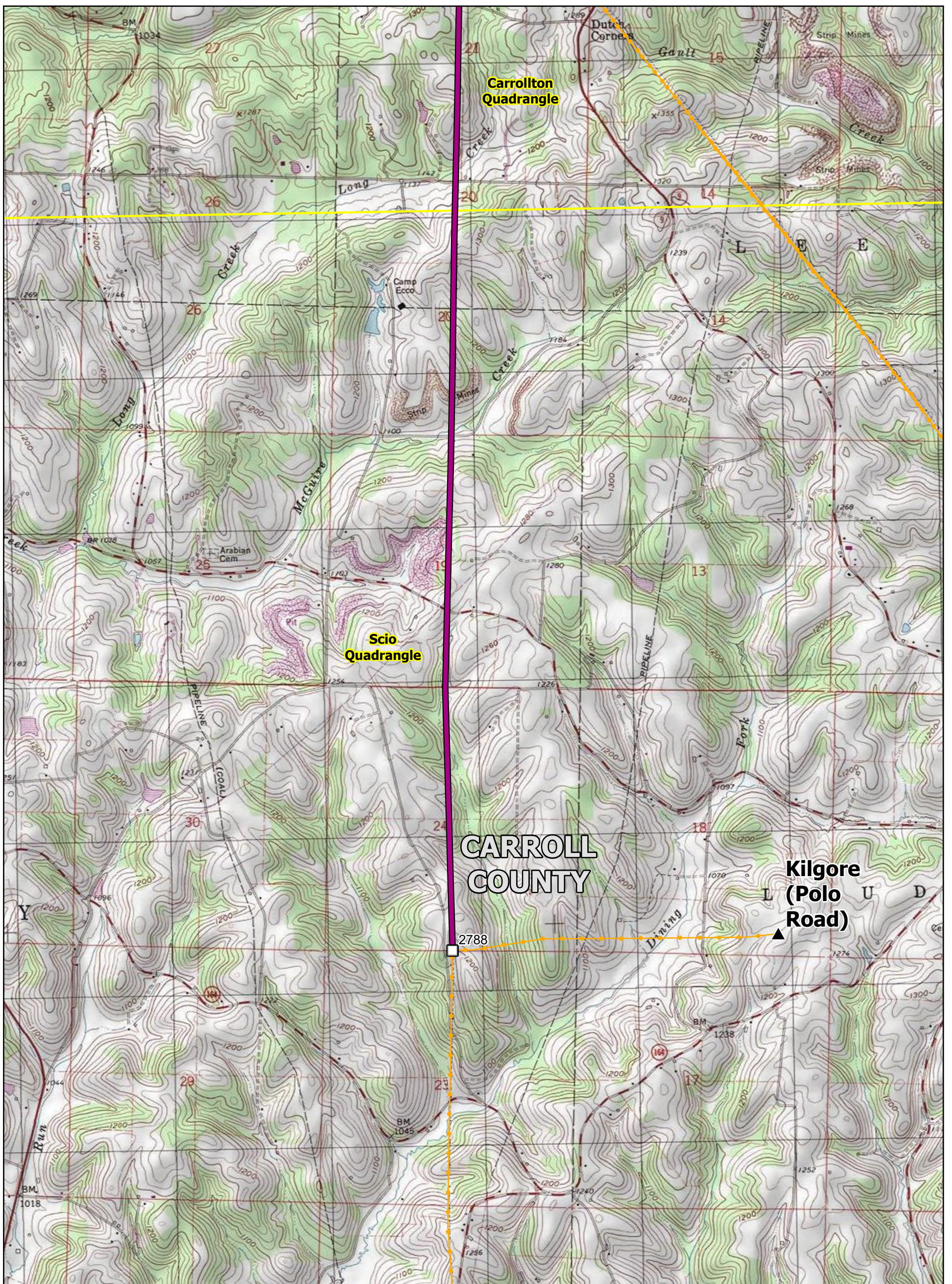
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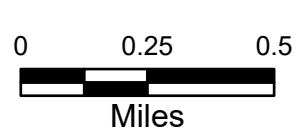
Jacobs



- Legend**
- ▲ Substation
 - Existing Structure
 - Existing Transmission Line
 - Washington-Kilgore (Polo Road) - Phase 2
 - Topographical Quadrangle Boundary



BASE MAP SOURCE:
USGS topo Map



ATSI
American Transmission Systems, Inc.
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Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

**Exhibit 1
TOPOGRAPHIC OVERVIEW MAP**

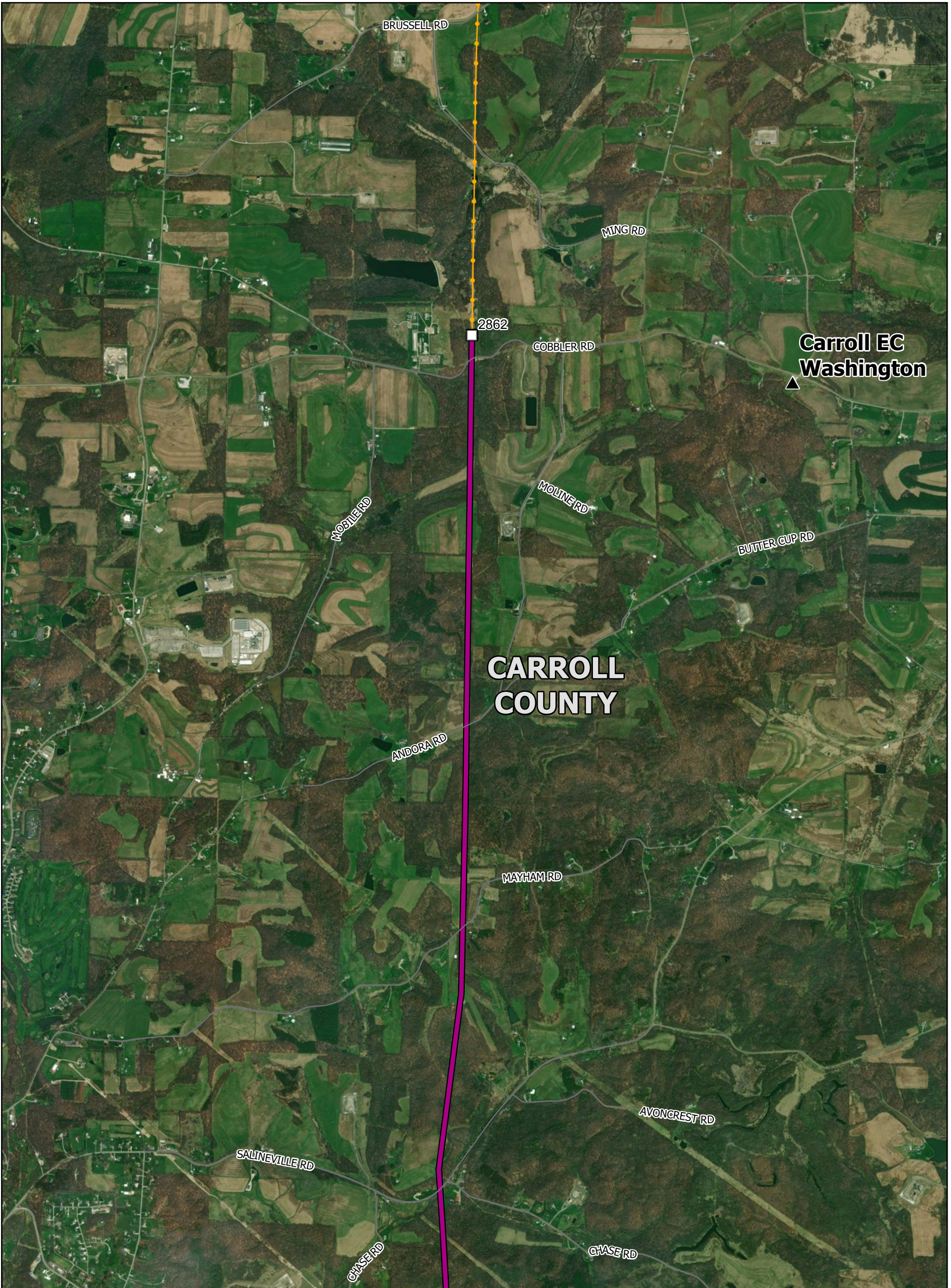
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REVIEWED BY: BO

Jacobs



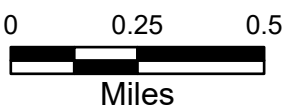
CARROLL COUNTY

**Carroll EC
Washington**

- Legend**
- ▲ Substation
 - Existing Structure
 - Existing Transmission Line
 - Washington-Kilgore (Polo Road) - Phase 2



BASE MAP SOURCE:
ESRI World Imagery



ATSI
American Transmission Systems, Inc.
a subsidiary of FirstEnergy Corp.

Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

**EXHIBIT 2
AERIAL OVERVIEW MAP**

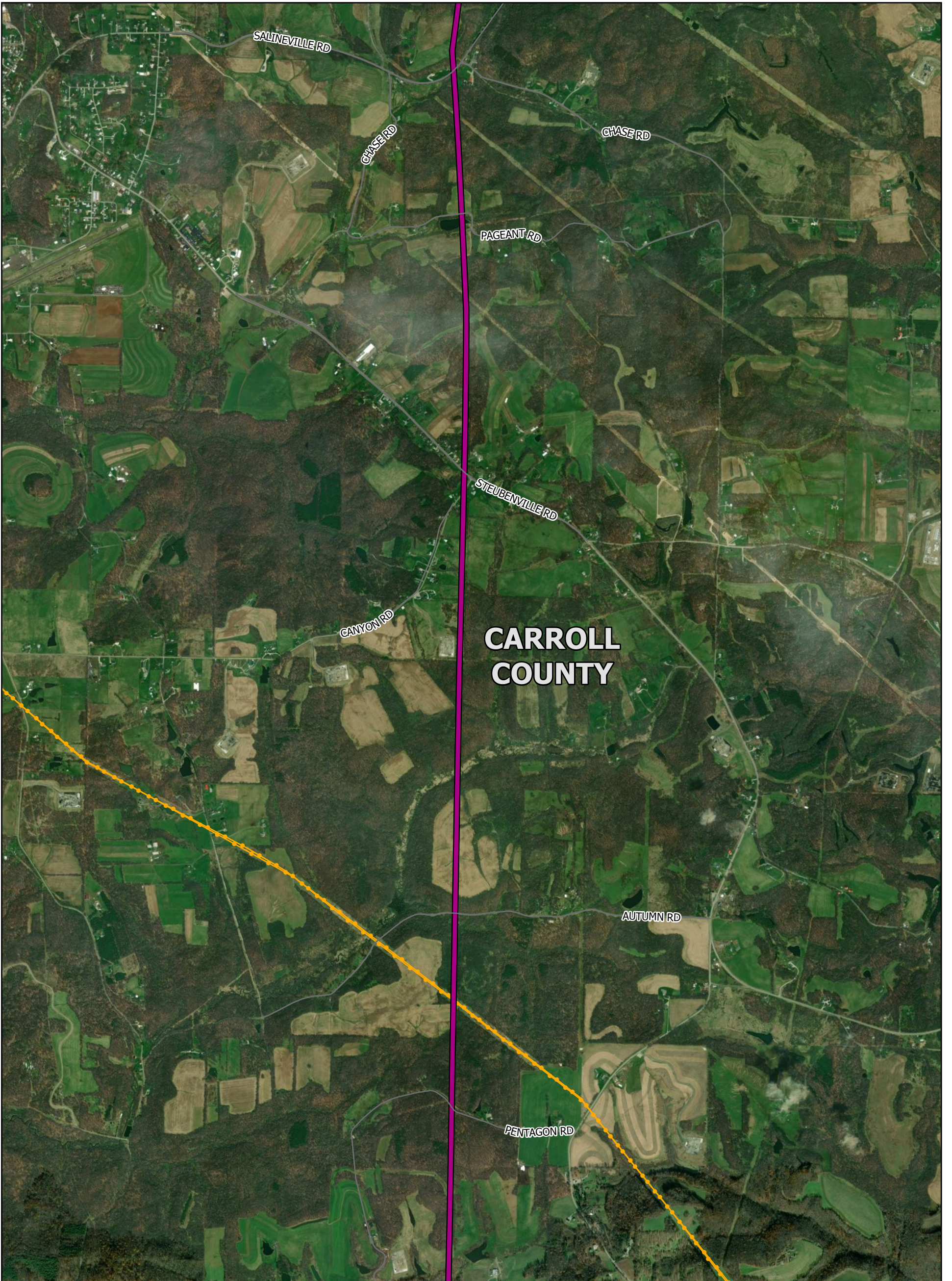
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DATE: 6/5/2024

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REVIEWED BY: BO

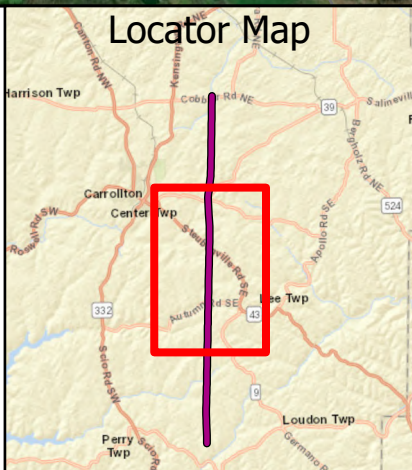
Jacobs



**CARROLL
COUNTY**

Legend

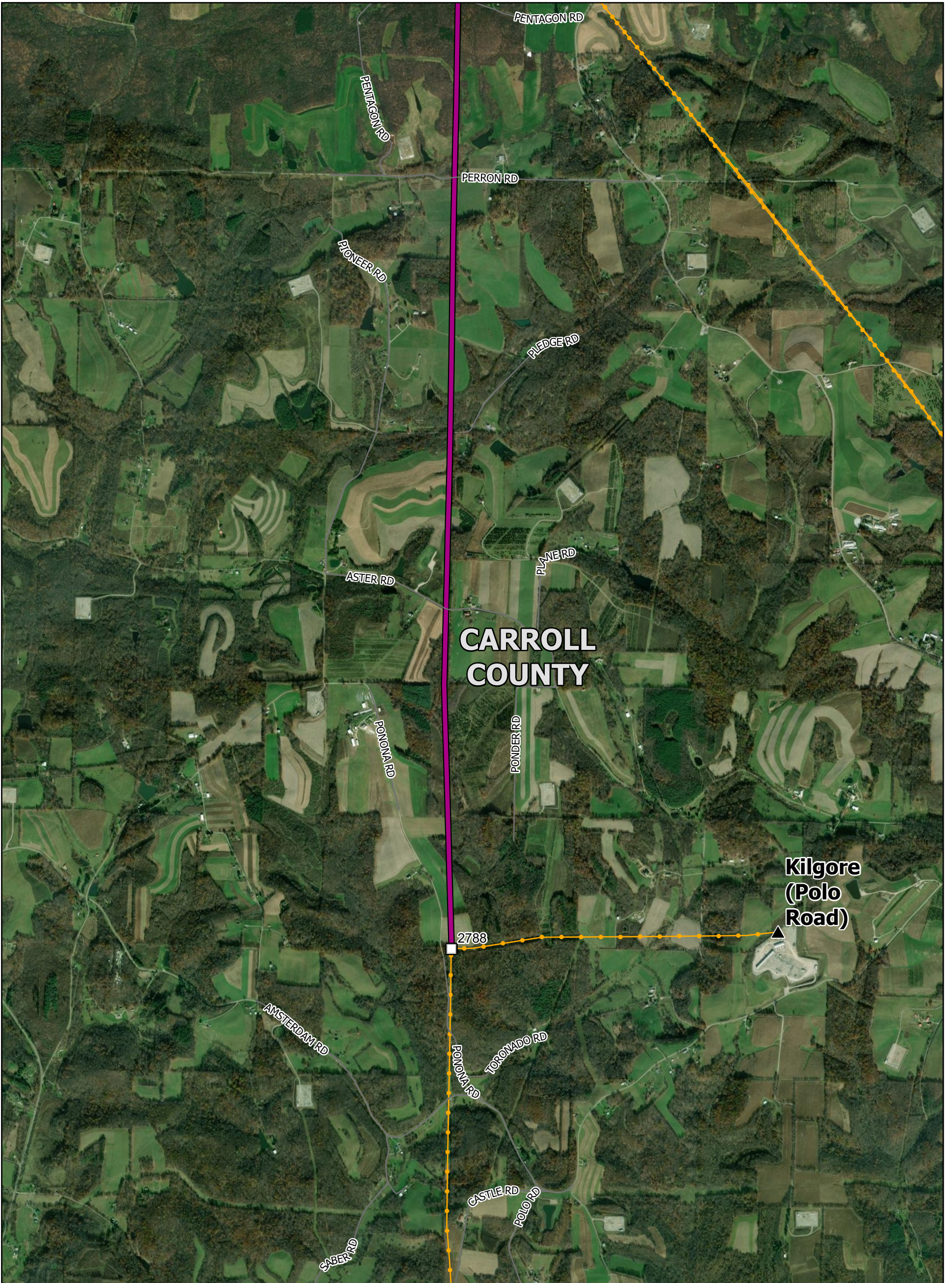
- Existing Transmission Line
- Washington-Kilgore (Polo Road) - Phase 2



BASE MAP SOURCE:
ESRI World Imagery

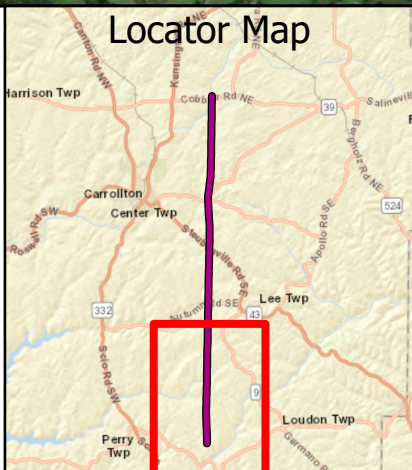
Miles

 <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
EXHIBIT 2 AERIAL OVERVIEW MAP	
PN: D3449600	DATE: 6/5/2024
CREATED BY: RD	
REVIEWED BY: BO	



Legend



- ▲ Substation
- Existing Structure
- Existing Transmission Line
- Washington-Kilgore (Polo Road) - Phase 2



BASE MAP SOURCE:
ESRI World Imagery

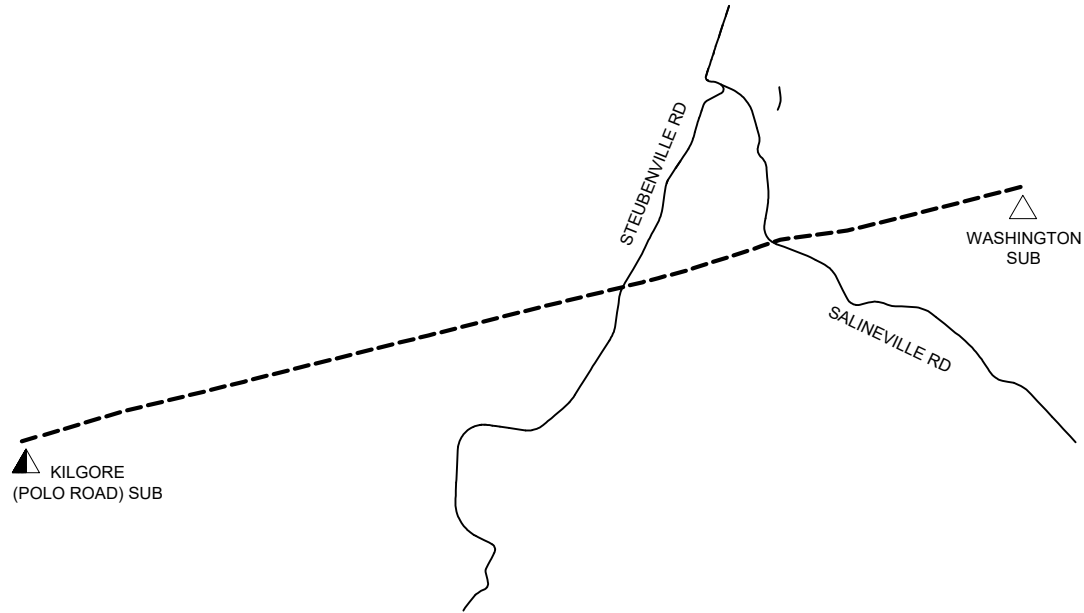
N
▲

0 0.25 0.5
Miles

 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
EXHIBIT 2 AERIAL OVERVIEW MAP		
PN: D3449600	DATE: 6/5/2024	
CREATED BY: RD		
REVIEWED BY: BO		



CARROLL COUNTY
STATE OF OHIO



LEGEND	
	- FIRSTENERGY SUBSTATION
	- AEP SUBSTATION
	- CUSTOMER SUBSTATION
	- 138kV TRANSMISSION REBUILD
	- ROADS
	- RAILROAD

 <i>Transmission Design</i>	138kV TRANSMISSION LINE POLO RD – WASHINGTON REBUILD
	GENERAL LAYOUT
	EXHIBIT 3

PAPER SIZE: 11X8.5

SCALE: NTS

ATSI Transmission Zone

Holloway-Nottingham-Knox 138 kV Line

Previously Presented: 8/31/2018 SRTEP

Problem Statement (Scope and Need/Drivers)

Equipment Material Condition, Performance and Risk

- Improve system reliability and performance
- Remove obsolete and deteriorated equipment
 - 53 to 82 year old construction
 - ~~57%-83%~~ inspection rejection rate
 - ~~Approximately 29 repair records over the past 3 years; increasing trend~~
 - ~~529 active repair conditions; negative increase in maintenance findings~~
- Upgrade to current standards
- Support shale gas load growth area; multiple (6) transmission service connections

Potential Solution:

Holloway-Nottingham-Knox 138 kV Line Rebuild (s1718)

- Rebuild the existing Knox-Nottingham 138 kV Line (Approximately 44 miles).
- Rebuild the existing Nottingham-Holloway #1 138 kV Line (Approximately 21 miles)
- Existing Conductor: Mixed conductor 795 ACSR & 477 ACSR
- Future Conductor: 795 ACSR
- Old Rating 158 MVA SN New Rating 275 MVA SN
- Rebuild the existing Nottingham-Holloway #2 138 kV Line (Approximately 21 miles) sharing a structure with the Nottingham-Holloway #1 138 kV Line
- Old Rating 200 MVA SN New Rating 275 MVA SN
- Rebuild a portion of the Nottingham-Yager #1 138 kV Line (Approximately 3.6 miles) sharing a structure with the Knox-Nottingham 138 kV Line
- Old Rating 200 MVA SN New Rating 275 MVA SN

Alternatives Considered: Maintain existing condition

Estimated Project Cost: \$193.8M

Project ISD: 5/31/2025

Status: Engineering

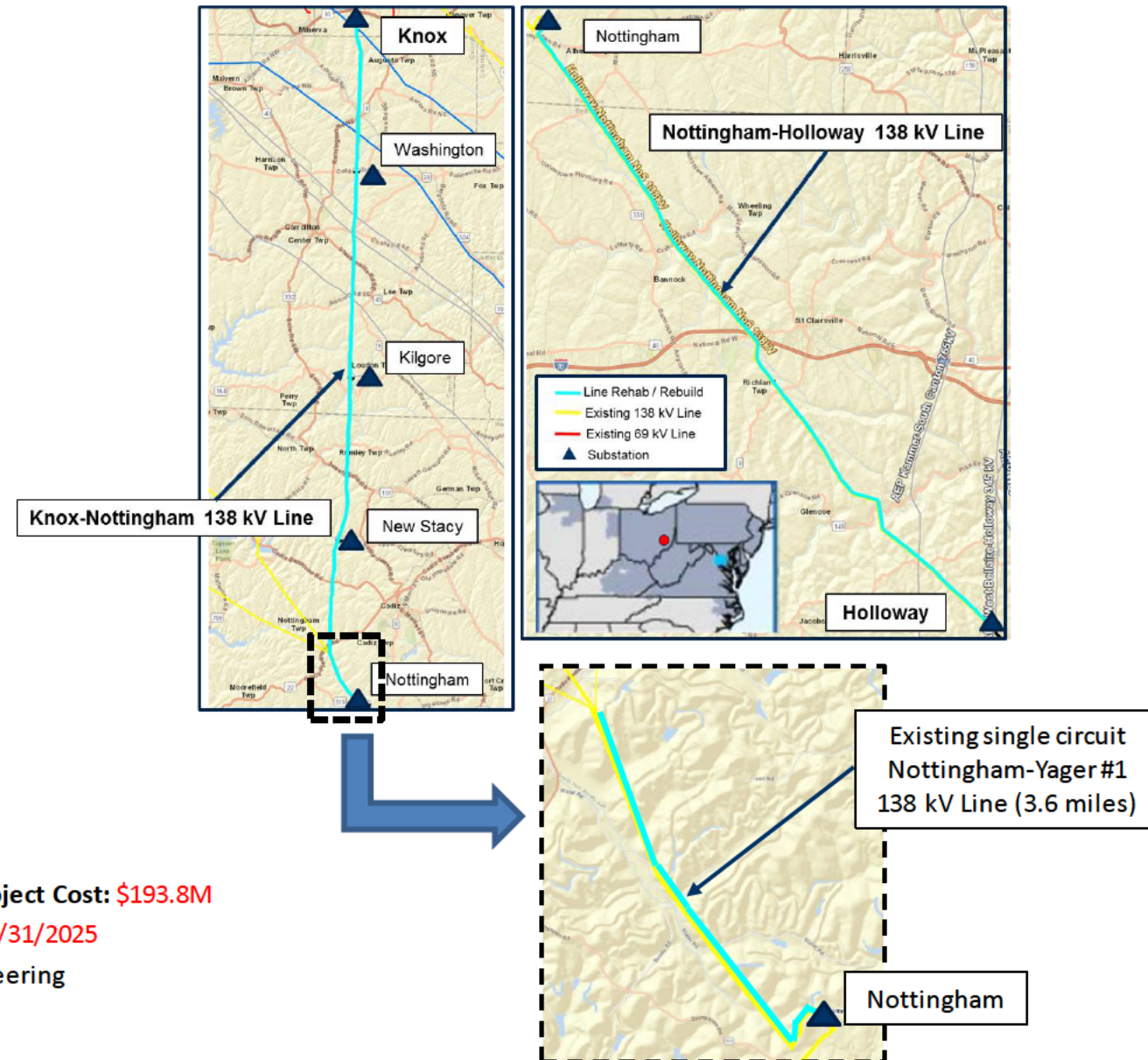
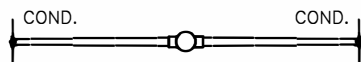


Exhibit 5
Property Owner List and Agricultural Land
Knox-Nottingham 138 kV Transmission Line Rebuild Project –
Kilgore (Polo Road)-Washington Sub Segment

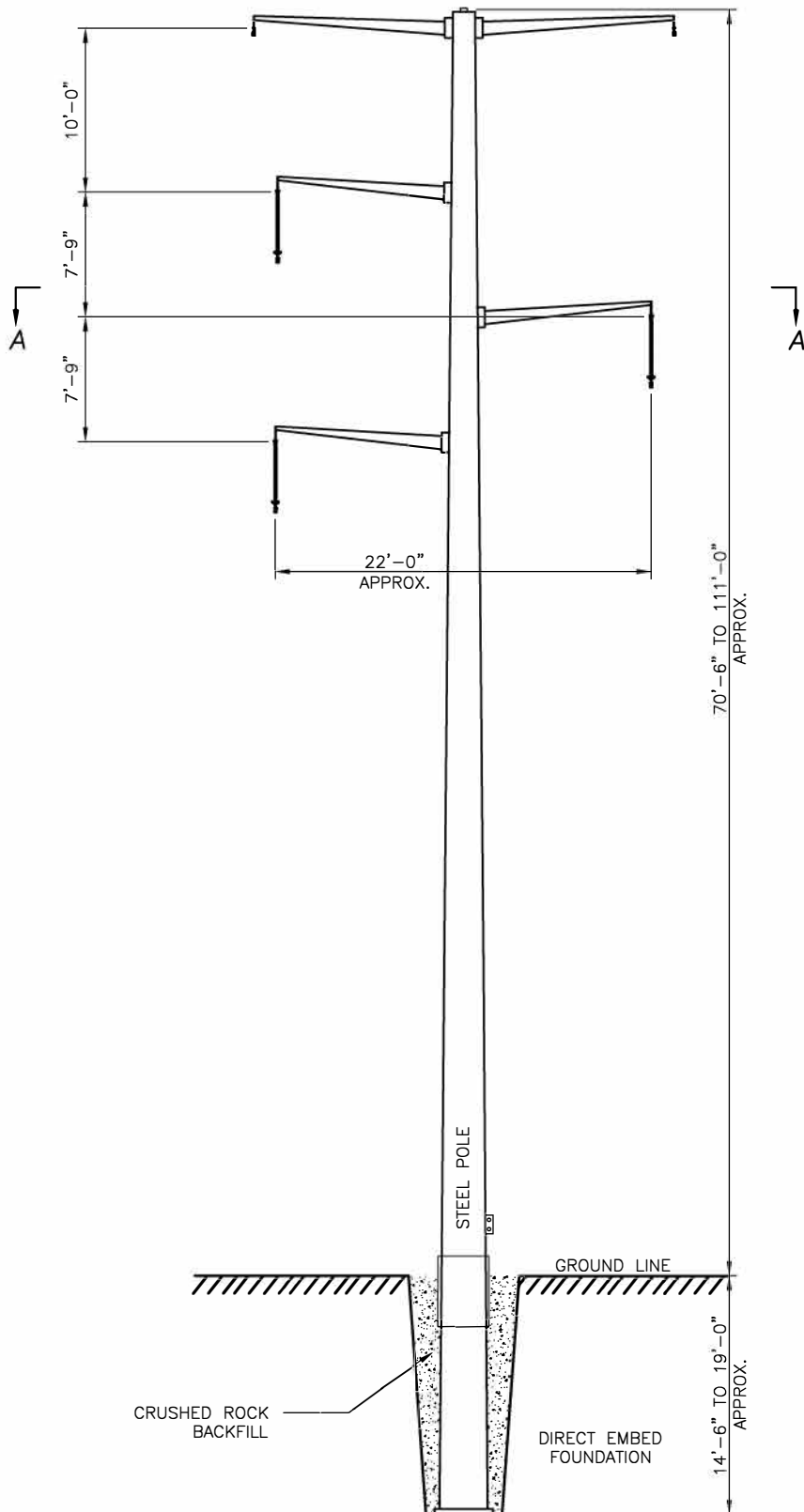
Parcel Number	Acreage	Easement Status	Agricultural District (Yes/No)	Agricultural District Expiration Year
170000823000	5.968	Existing	No	N/A
170000873000, 170000873003, 170000873001, 170000873002, 170000873004	8.11 7.483 7.062 6.775 7.027	Existing Existing Existing Existing Existing	No No No No No	N/A N/A N/A N/A N/A
090000397000	29.245	Existing	No	N/A
170000569001, 170000496000, 170000497000	0.34 60.98 29.748	Existing Existing Existing	No No No	N/A N/A N/A
280001145000, 280001144000	168.00 42.00	Existing Existing	No No	N/A N/A
170000822000, 170000620004	7.50 0.768	Existing Existing	No No	N/A N/A
170060015000, 280060010000, 280001512000, 280001202000	60.00 49.00 1.00 66.40	Existing Existing Existing Existing	No No No No	N/A N/A N/A N/A
170000620001, 170000621000, 330001096000, 330001095000	63.206 36.120 85.093 10.812	Existing Existing Existing Existing	No No No No	N/A N/A N/A N/A
340090013001	2.838	Existing	No	N/A
340000068000, 340000067000, 340000460000	40.00 5.00 27.150	Existing Existing Existing	No No No	N/A N/A N/A
090000162000	29.2730	Existing	No	N/A
170000872000	44.82	Existing	No	N/A
090000175000, 090000885000, 090000173000	45.00 20.00 38.244	Existing Existing Existing	No No No	N/A N/A N/A
090000509000, 330000430000, 330000432000	77.710 56.11 72.70	Existing Existing Existing	No No No	N/A N/A N/A
170000374000	100.00	Existing	No	N/A
090000884000, 090000884001	10.13 25.00	Existing Existing	No No	N/A N/A
170000780000	35.98	Existing	No	N/A
280000093000	42.27	Existing	No	N/A
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280000712006	7.605	Existing	No	N/A
170000794000	16.46	Existing	No	N/A

340000212000, 340000209000, 340000210000, 340000211000	75.62 80.00 40.00 45.160	Existing Existing Existing Existing	No No No No	N/A N/A N/A N/A
170000633000	0.653	Existing	No	N/A
340000599000, 340000582000, 340000522000, 090000021009, 090000021002	97.72 17.05 23.20 7.510 11.00	Existing Existing Existing Existing Existing	No No No No No	N/A N/A N/A N/A N/A
340000010000	105.520	Existing	No	N/A
340000038000	80.255	Existing	No	N/A
090000021011	16.00	Existing	No	N/A
170000724001, 170000724000, 170000724002	77.99 7.00 4.00	Existing Existing Existing	No No No	N/A N/A N/A
170000729000 170000801000	8.160 5.990	Existing Existing	No No	N/A N/A
170000568000, 170000569000, 170000496005	1.470 0.440 5.10	Existing Existing Existing	No No No	N/A N/A N/A
170000130000, 170000125000, 170000123000, 170000129000, 170000124000, 170000122000, 170000126000, 170000121000, 170000120000	160.00 81.140 50.00 160.00 81.14 48.00 87.210 40.00 40.00	Existing Existing Existing Existing Existing Existing Existing Existing Existing	No No No No No No No No No	N/A N/A N/A N/A N/A N/A N/A N/A N/A
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280000039000, 280001449000, 280001448000, 280000763000, 280000039001, 280001490000, 280001088000	138.430 19.20 6.370 20.080 25.70 2.010 133.99	Existing Existing Existing Existing Existing Existing Existing	Yes Yes Yes Yes Yes Yes Yes	2028 2028 2028 2028 2028 2028 2028
340000195000, 340000194000, 090000398000, 090000399000, 090000400000	0.230 0.580 0.320 31.180 3.230	Existing Existing Existing Existing Existing	No No No No No	N/A N/A N/A N/A N/A
280000090000, 280000092000, 280000093001, 280001224000, 280001224001	31.870 73.312 83.440 12.059 51.113	Existing Existing Existing Existing Existing	No No No No No	N/A N/A N/A N/A N/A
090000020000, 090000019000, 090000864000, 090000864005, 090000864001	8.340 8.00 66.415 28.831 9.515	Existing Existing Existing Existing Existing	No No No No No	N/A N/A N/A N/A N/A
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090000464000	9.320	Existing	No	N/A
170000789000, 170000790000	17.50 20.240	Existing Existing	No No	N/A N/A



SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE SUSPENSION CONFIGURATION.

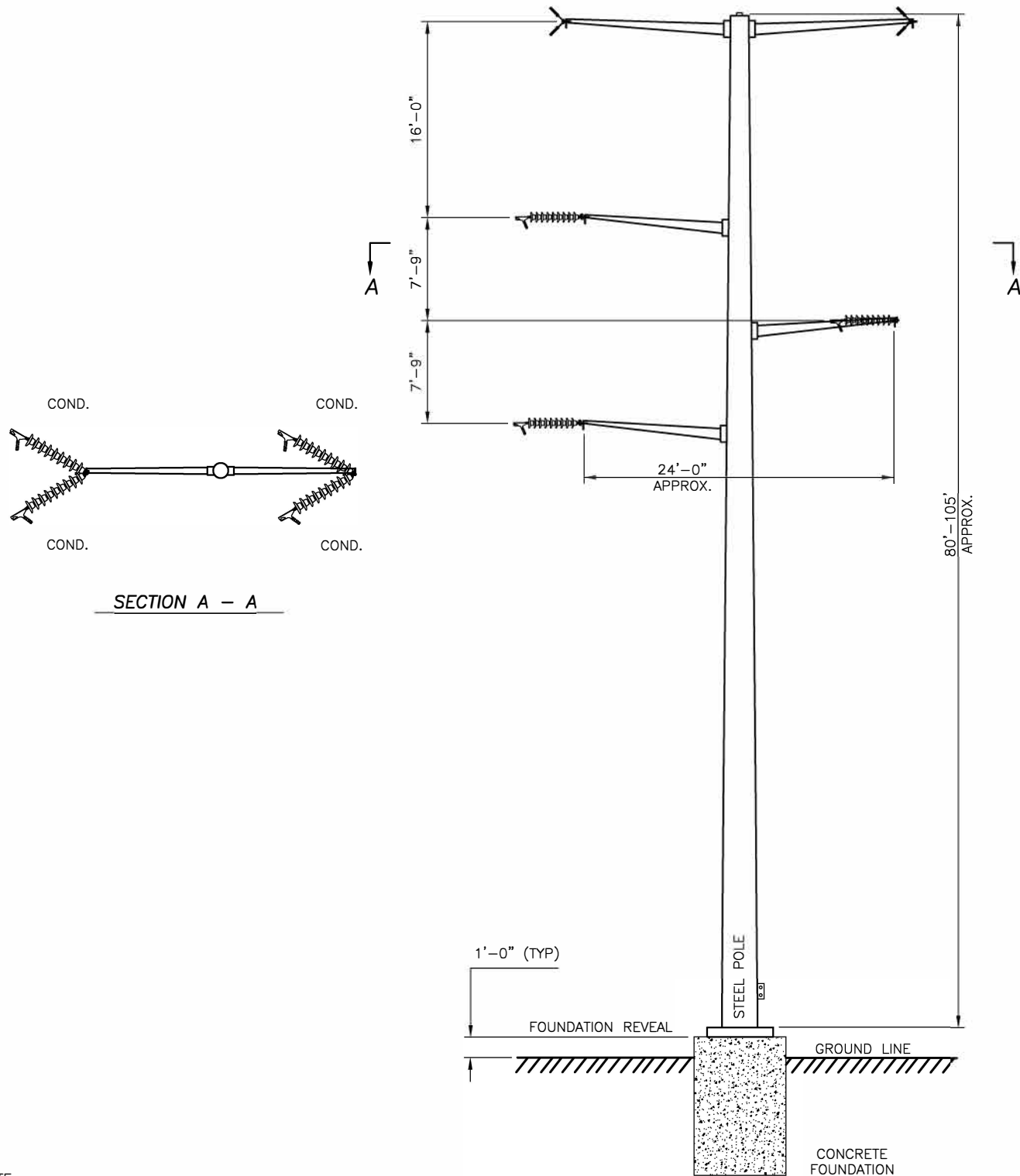
****NOT TO SCALE**



Knox-Nottingham 138 kV Transmission Line Rebuild
 Project – Kilgore (Polo Road)-Washington Sub
 Segment

**138kV SINGLE CIRCUIT
 STEEL POLE, SUSPENSION**


EXHIBIT 6

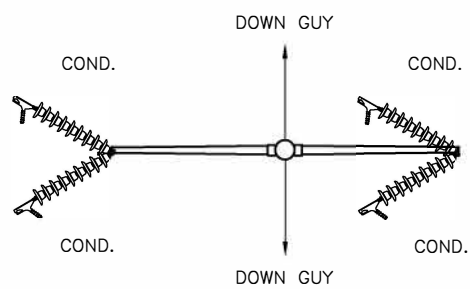


SECTION A - A

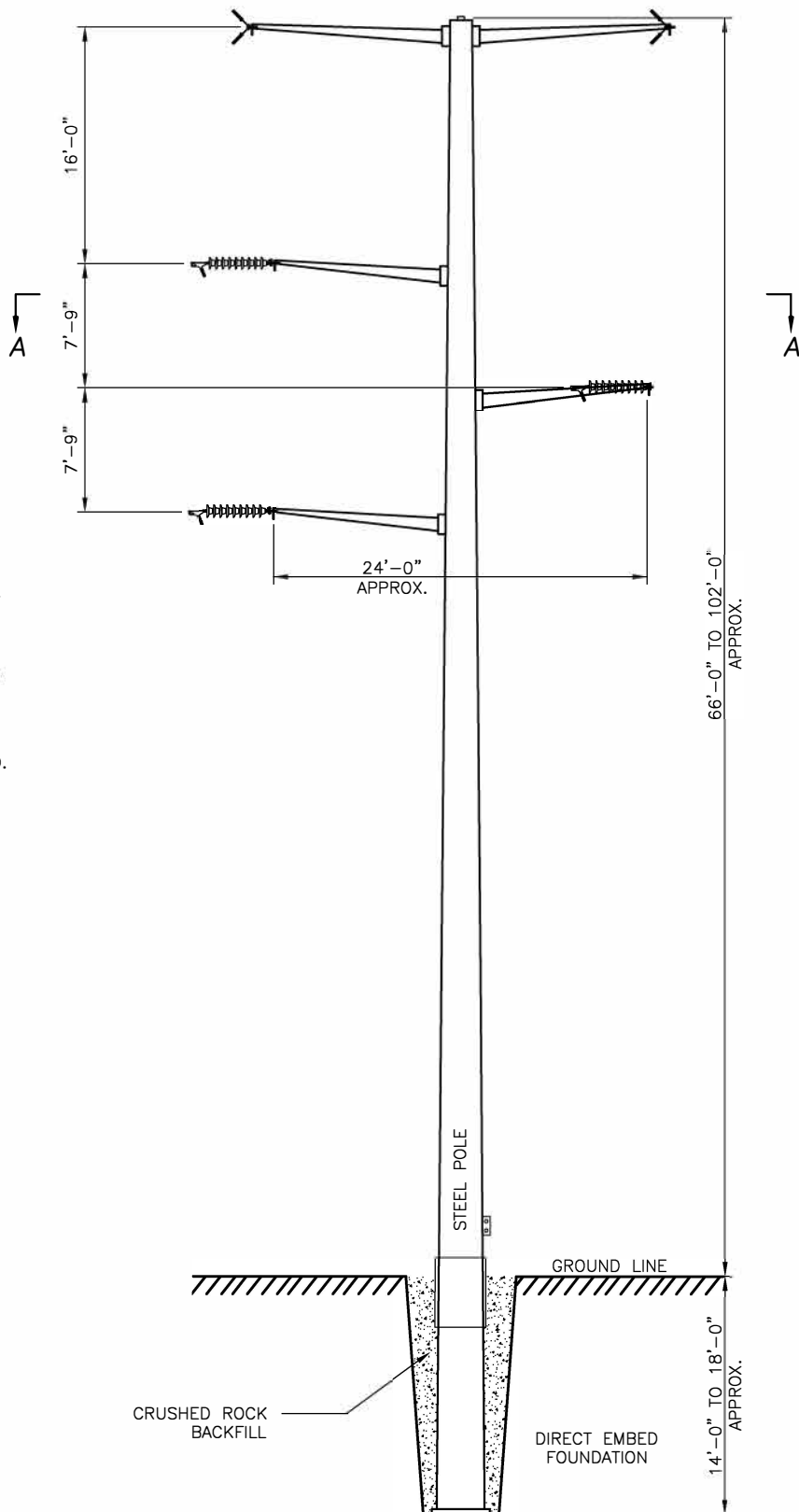
NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE DEADEND CONFIGURATION.

****NOT TO SCALE**

 ATSI [®] American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>	Knox-Nottingham 138 kV Transmission Line Rebuild Project – Kilgore (Polo Road)-Washington Sub Segment
<h1>138kV SINGLE CIRCUIT STEEL POLE, DEADEND</h1>	
<h2>EXHIBIT 7</h2>	



SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY
 TYPE OF SINGLE CIRCUIT STEEL POLE STRAIN CONFIGURATION.

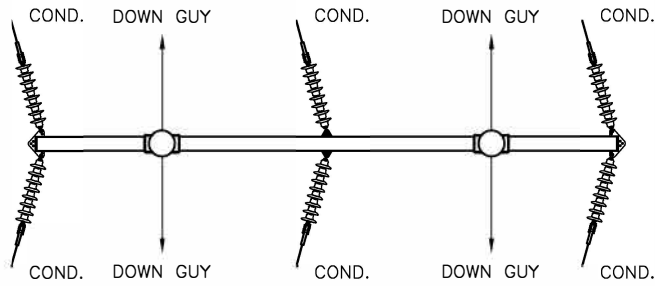
**NOT TO SCALE

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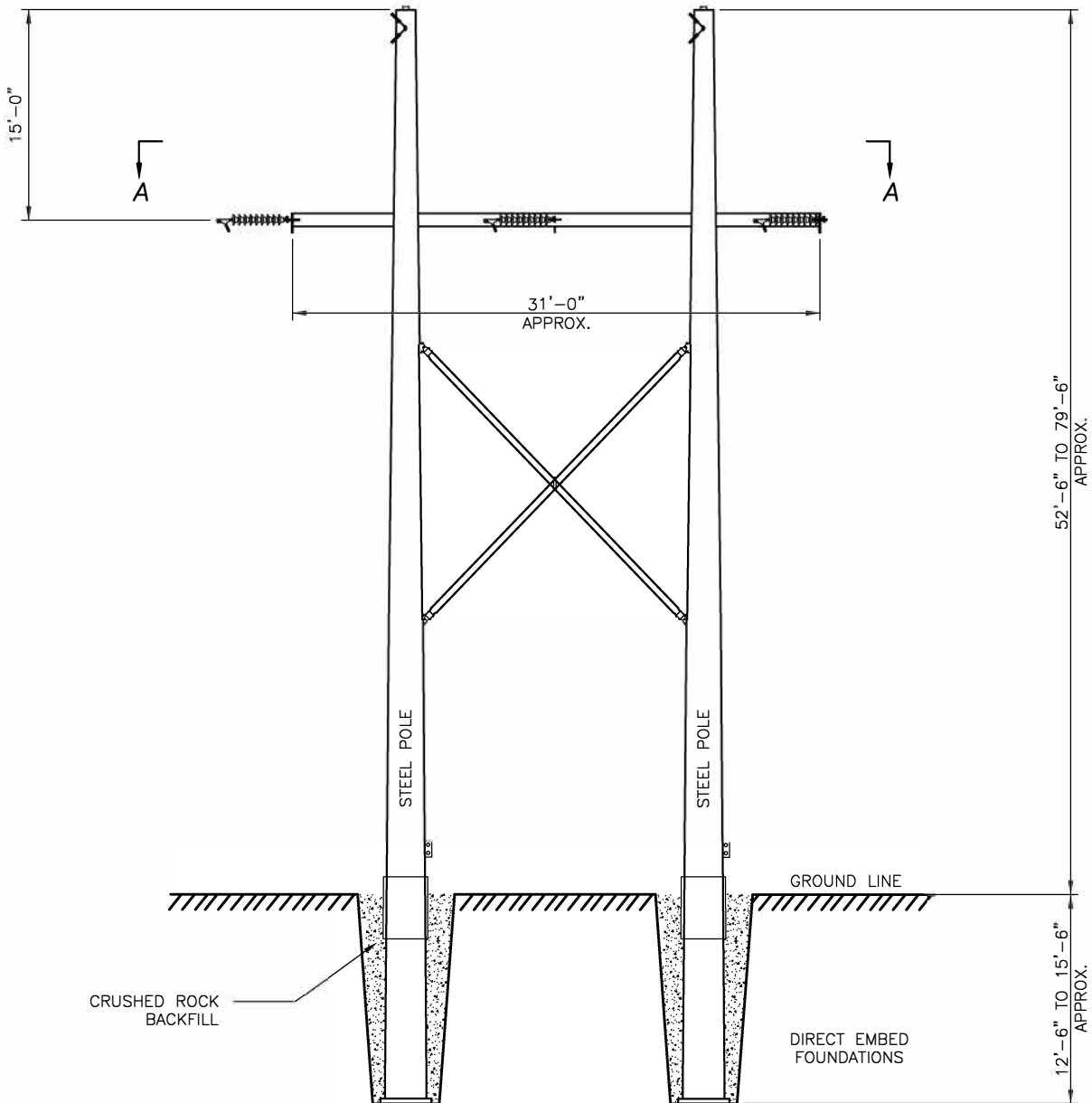
Knox-Nottingham 138 kV Transmission Line Rebuild
 Project – Kilgore (Polo Road)-Washington Sub
 Segment

138kV SINGLE CIRCUIT
 STEEL POLE, STRAIN

EXHIBIT 8



SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE H-FRAME CONFIGURATION.

****NOT TO SCALE**

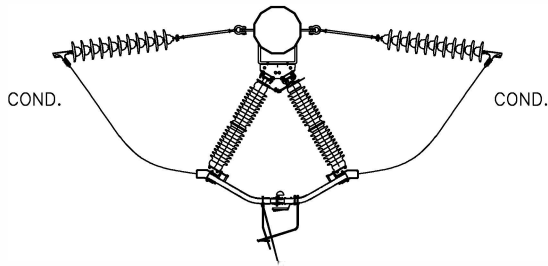
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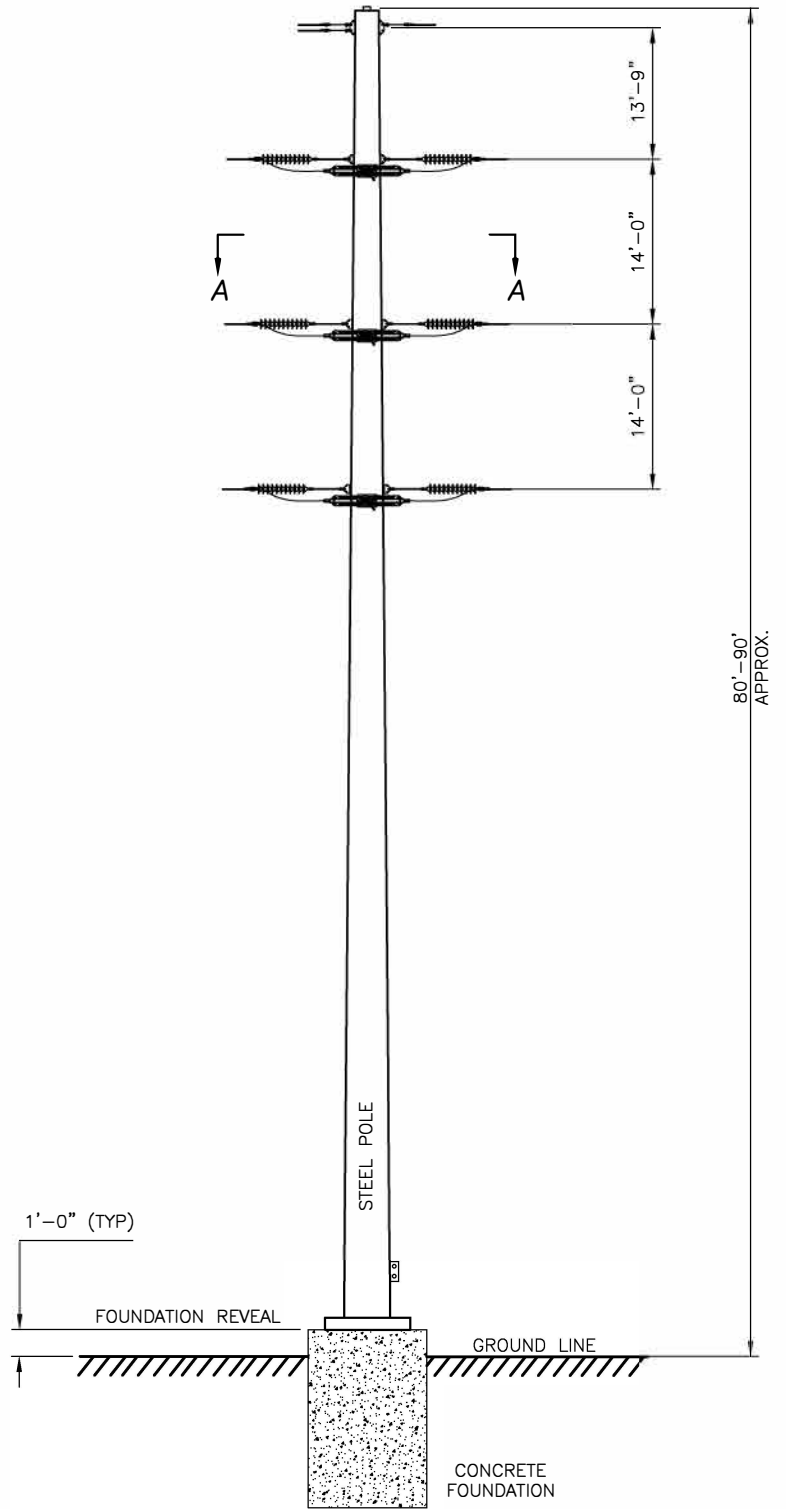
Knox-Nottingham 138 kV Transmission Line Rebuild
 Project – Kilgore (Polo Road)-Washington Sub
 Segment

**138kV SINGLE CIRCUIT
 STEEL H-FRAME, STRAIN**

EXHIBIT 9




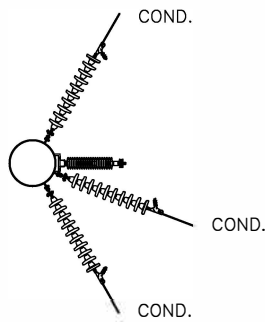
SECTION A - A



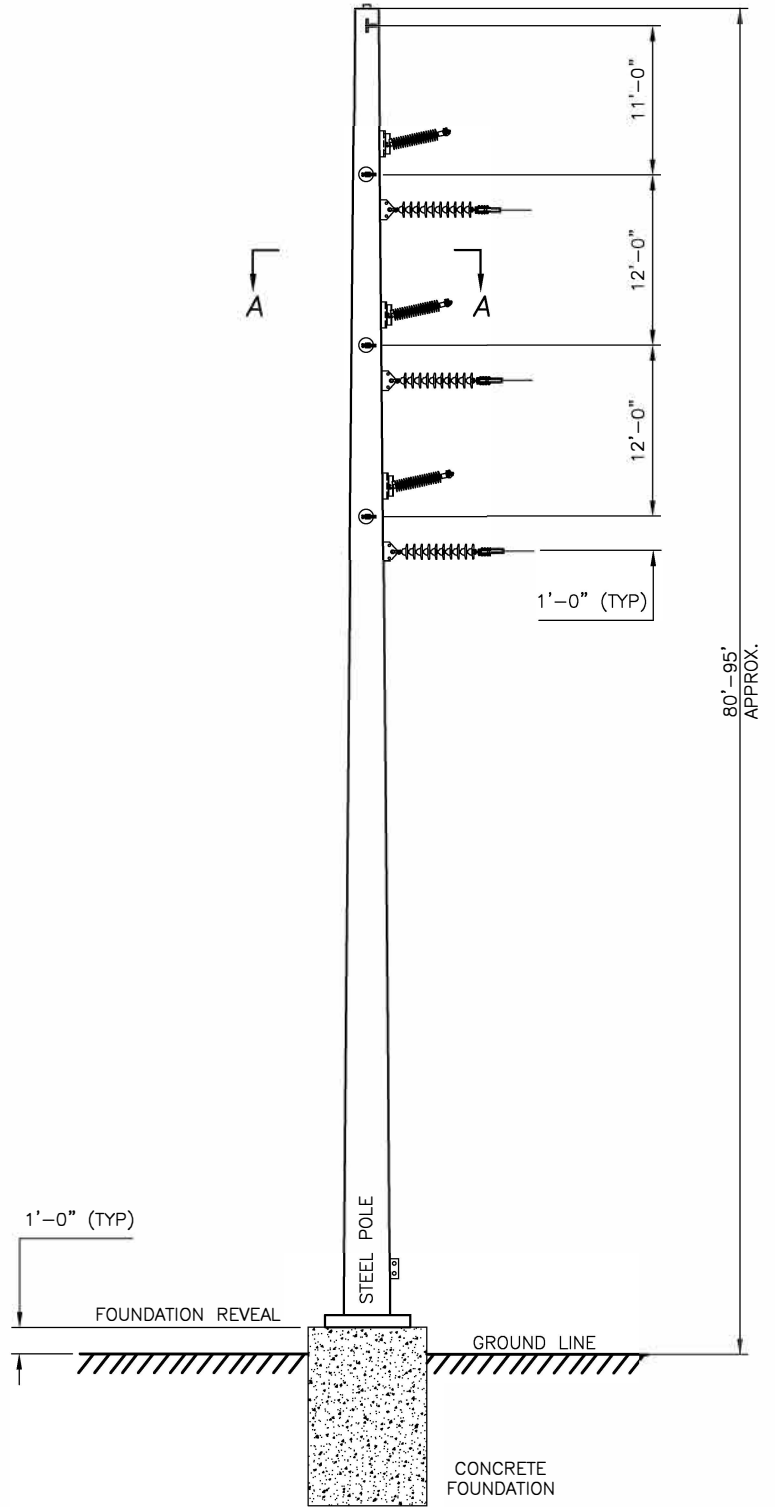
NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY TYPE
 OF SINGLE CIRCUIT STEEL POLE SWITCH CONFIGURATION.

**NOT TO SCALE

 ATSI [®] American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>	Knox-Nottingham 138 kV Transmission Line Rebuild Project – Kilgore (Polo Road)-Washington Sub Segment
<h1>138kV SINGLE CIRCUIT STEEL POLE, SWITCH</h1>	
<h2>EXHIBIT 10</h2>	



SECTION A - A



NOTE:
 DETAILS DEPICTED IN FIGURE CAN BE APPLIED FOR ANY
 TYPE OF SINGLE CIRCUIT STEEL POLE TAP CONFIGURATION.

****NOT TO SCALE**

	Knox-Nottingham 138 kV Transmission Line Rebuild Project – Kilgore (Polo Road)-Washington Sub Segment
<h1>138kV SINGLE CIRCUIT STEEL POLE, TAP</h1>	
<h2>EXHIBIT 11</h2>	



In reply refer to:
2020-MLT-49294

September 16, 2020

Amy C. Favret, M.A., RPA
Jacobs
2 Crowne Point Court, Suite 100
Cincinnati, Ohio 45241

RE: Section 106 Review-Holloway-Knox 138kV Transmission Line Rebuild Project, Belmont, Carroll, Columbiana, and Harrison Counties, Ohio

Dear Ms. Favret:

This letter is in response to the correspondence received on August 17, 2020 regarding the proposed 64-mile long Holloway-Knox 138kV Transmission Rebuild Project in Belmont, Carroll, Columbiana, and Harrison 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 proposed project will entail replacing the existing H-frame wood poles with direct embedded steel and drilled shaft H-frame wood poles. The new poles will be installed approximately 10-ft. from the existing poles within the 100-ft. wide right-of-way (ROW). All work will be within the existing ROW except for access roads, which will use existing roads, driveways, or farm lanes. Four pull pads, totaling 0.26-acres, will extend outside of the existing ROW.

A literature review report, *Holloway-Knox 138kV Transmission Line Project, Belmont, Carroll, Columbiana, and Harrison Counties, Ohio* was completed for the entire 64-mile rebuild project. A total of two National Register of Historic Places (NRHP)-listed properties, 165 Ohio Historic Inventory (OHI) properties, two NRHP eligible properties, 43 cemeteries, and 224 Ohio Archaeological Inventory (OAI) sites were identified within the 1.0-mile study area. Of these, one cemetery (Bird/Byrd Cemetery-OGS ID 1381) and two OAI sites (33CO257 and 33CO258) were determined to be within the project ROW. Additionally, one historic architecture survey and 11 Phase I archaeological surveys overlap portions of the ROW.

Sites 33CO257 and 33CO258 are low-density prehistoric lithic scatters previously identified during one of the Phase I surveys. Neither of these sites are near existing poles. Site 33CO257 was recommended for further work, but to date, no additional work has been conducted at the site. As a precautionary measure, a 50-ft. buffer using construction fencing will be placed around site 33CO257 during construction. The Bird/Byrd Cemetery is approximately 151-ft. south of the nearest pole and therefore will not be impacted by the project. Since this cemetery is within the ROW, it is recommended that a 50-ft. buffer using construction fencing also be put up around the cemetery during construction as a precautionary measure.

Due to the nature of the project as a rebuild, it is Jacob's recommendation that no further archaeological or architectural investigations are necessary as the visibility of the existing transmission line should not increase. Our office agrees with this recommendation.

2020-MLT-49294
September 16, 2020
Page 2

Based on the information provided, we agree that the project, as proposed, will have no effect on historic properties. No further coordination is required for this project unless the scope of work changes or archaeological remains are discovered during the course of construction. In such a situation, this office should be contacted as required by 36 CFR § 800.13. If you have any questions, please contact me by e-mail at sbiehl@ohiohistory.org or Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Stephen M. Biehl". The signature is written in a cursive style.

Stephen M. Biehl, Project Reviews Coordinator (archaeology)
Resource Protection and Review
State Historic Preservation Office

cc: Joy Williams, SHPO

RPR Serial No. 1085225

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."

From: Nathan.Reardon@dnr.ohio.gov
To: [Otto, Benjamin \(Jacobs Engineering Group\)](#)
Cc: [Bagato, Steve \(B & M\)](#); [Ruggiero, Augustine](#); [Chenault, Brandy](#); Mike.Pettegrew@dnr.ohio.gov; Ann.Schweitzer@dnr.ohio.gov
Subject: [EXTERNAL] RE: 23-0053; FirstEnergy Holloway-Knox 138 kV Transmission Line Rebuild Project Follow-Up
Date: Thursday, July 11, 2024 2:46:48 PM
Attachments: [image003.png](#)

Hello Ben,

The DOW concurs that the avoidance/minimization measures as proposed are sufficient in minimizing impacts to listed species, including birds and bats.

Thank you,
Nathan

Nathan Reardon
Lands Coordinator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6741
Email: nathan.reardon@dnr.ohio.gov

Support Ohio's wildlife. Buy a license or stamp at wildohio.gov.

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Please consider the environment before printing this email.

From: Otto, Ben <Ben.Otto@jacobs.com>
Sent: Thursday, July 11, 2024 1:58 PM
To: Pettegrew, Mike <Mike.Pettegrew@dnr.ohio.gov>
Cc: Reardon, Nathan <Nathan.Reardon@dnr.ohio.gov>; Bagato, Steven <sbagato@burnsmcd.com>; Ruggiero, Augustine (Jirousek, Michael J.) <Aruggiero@firstenergycorp.com>; Chenault, Brandy <Brandy.Chenault@jacobs.com>
Subject: 23-0053; FirstEnergy Holloway-Knox 138 kV Transmission Line Rebuild Project Follow-Up

Dear Mr. Pettegrew,

On behalf of American Transmission Systems Inc., a subsidiary of FirstEnergy Service Company (FirstEnergy), Jacobs Engineering Group Inc. is submitting this follow up letter report to the ODNR in response to comments provided on February 7, 2023, regarding the proposed Holloway-Knox 138 kV Transmission Line Project (23-0053). This follow-up letter is being provided for the Phase 2 portion of this Project. Please find the attached response letter requesting concurrence from the ODNR that the Project, as proposed with the avoidance and minimization measures, will not likely adversely

affect state-listed bird and bat species. Please let us know if you have any questions or need any additional information for your review.

Thanks,

Benjamin Otto | [Jacobs](#) | Senior Ecologist & Project Manager
O:+513.595.7808 M:+513.377.6458 | Ben.Otto@jacobs.com
2 Crowne Point Court, Suite 100 | Cincinnati, OH 45241 | United States

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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

February 7, 2023

Jen Wessel
 Jacobs Engineering Group, Inc.
 2 Crowne Point Court
 Cincinnati, OH 45241

Re: 23-0053; Holloway-Knox 138 kV Transmission Line Rebuild Project

Project: The proposed project involves replacing the existing wood h-frame structures of the 138-kV electric transmission line with a combination of new direct embedded steel and drilled shaft H-frame wood pole structures.

Location: The proposed project is located in Archer, Athens, Augusta, Cadiz, Center, Lee, Mead, Perry, Pultney, Richland, Rumley, Washington, West and Wheeling townships; and through the City of St. Clairsville, within Columbiana, Carroll, Harrison, and Belmont 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 the following data at or within one mile of the project area:

Drummond's Aster (*Symphyotrichum drummondii*), T
 Sharp-shinned Hawk (*Accipiter striatus*), SC
 Upland Sandpiper (*Bartramia longicauda*), E
 Northern Harrier (*Circus hudsonius*), E
 Barn Owl (*Tyto alba*), T
 Slippershell Mussel (*Alasmidonta viridis*), T
 Creek Heelsplitter (*Lasmigona compressa*), SC
 Mussel Bed

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

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 majority of the project route within Carroll, Harrison, and Belmont Counties is within the vicinity of records for 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/or the tricolored bat (*Perimyotis subflavus*), a state endangered species. Because presence of state endangered bat species has been established in this area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, 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 bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. The DOW recommends tree 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 ≥ 20 if possible. However, if trees are present within this area, (outside of the area delineated above) 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 the DOW.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES](#)." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza, for project recommendations. If a potential or known 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 the 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.

State Endangered

butterfly (*Ellipsaria lineolata*)

Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this or other mussel species.

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

State Endangered

western banded killifish (*Fundulus diaphanus menona*)

State Threatened

channel darter (*Percina copelandi*)

paddlefish (*Polyodon spathula*)

river darter (*Percina shumardi*)

Due to the location, and that there is no in-water work 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. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream, 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 April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US 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.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994



January 26, 2023

Project Code: 2023-0031065

Reference: AEP Holloway-Knox project 138 kV line rebuild

Dear Mr./Ms,

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 ≥ 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 <https://ecos.fws.gov/ecp/species/9045>), 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.

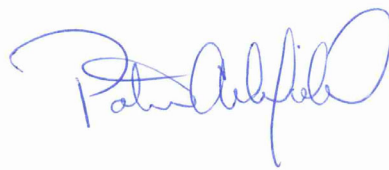
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus it is important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing 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 ohio@fws.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield". The signature is fluid and cursive, with a large initial "P" and "A".

Patrice Ashfield
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Wetland and Waterbody Delineation Report

Washington-Kilgore (Polo Road)
138 kV Transmission Line Rebuild Project
Carroll County, Ohio

Prepared for



June 2024

Jacobs

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1 Introduction

This wetland and waterbody delineation report (Report) summarizes the results of the wetland and waterbody delineation surveys conducted on the Washington-Kilgore (Polo Road) 138 kilovolt (kV) Transmission Line Rebuild Project (Project) in Carroll County, Ohio by Jacobs Engineering Group Inc. (Jacobs), for American Transmission Systems, Incorporated (ATSI), a wholly owned subsidiary of FirstEnergy Corporation. ATSI is proposing to replace existing wood H-frame structures with new direct embedded steel and drilled shaft H-frame wood pole structures along approximately 11.5 miles of existing transmission line. The environmental survey boundary (ESB) included the existing 100-foot right-of-way (ROW) and off-ROW access roads. This Report contains the following components:

- Figure 1 in Appendix A provides an overview map of the ESB overlain on U.S. Geological Survey (USGS) Topographic Maps.
- Figures 2-1 to 2-42 in Appendix A show U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil map units, National Wetland Inventory (NWI) polygons, national hydrography dataset (NHD) streams, and Federal Emergency Management Agency (FEMA) 100-year floodplain and floodway information.
- Figures 3-1 to 3-42 in Appendix A provide the location of all features mapped during the delineation by Jacobs biologists. This includes all wetlands, data points, and waterbodies.
- U.S. Army Corps of Engineers (USACE) wetland determination data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Qualitative Habitat Evaluation Index (QHEI) Stream Forms are in Appendix D.
- Headwater Habitat Evaluation Index (HHEI) Stream Forms are in Appendix E.
- Jacobs Open Water/Pond Data Forms are in Appendix F.

2 Background Information

The ESB begins just north of Cobbler Road NE (40.622370, -81.042573), and extends south to its end just north of Pomona Road (40.456873, -81.049261). The ESB crosses the townships of Washington, Center, Lee, and Perry, Ohio (Figure 1).

Review of the USGS 7.5-minute topographic maps crossed by the ESB (Carrollton and Scio, Ohio) indicates that the primary waterways that drain the ESB include Pipe Run, Friday Creek, North Fork McGuire Creek, Long Creek, McGuire Creek. Topographic relief is comprised of rolling hills, with elevations ranging between 1,040 feet and 1,340 feet above sea level throughout the ESB (Figure 1).

Land use and natural communities observed within the ESB include transmission line ROW, agricultural, hayfield, pasture, residential, road, gravel lot, wetlands, streams, and ponds.

2.1 Annual Precipitation

Precipitation history for Steubenville, Ohio was reviewed prior to completing the environmental survey to determine if climatic conditions were normal at the time of the survey. Steubenville was the nearest weather station with both recent and historic precipitation data. Rainfall recorded in Steubenville ranged from below average to above average leading up to the surveys in late April and May 2024 (Table 2-1; USDA 2024), with an overall trend suggesting that climatic conditions were wetter than usual for the region and time of year. This was taken into consideration during the delineation.

TABLE 2-1: Recent Precipitation Data

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Precipitation Data	Feb	Mar	Apr	May	Total
2024 Monthly Sum ^{1,3}	2.28	3.76	7.04	2.57*	15.65
Normal Precipitation ^{2,3}	1.69-2.93	2.56-3.80	2.33-3.77	2.95-4.85	9.53-15.35
Monthly climatic condition	average	average	above average	below average*	above average

¹Monthly weather summary from weather station STEUBENVILLE, OH

²USDA WETS Station Climate Data 1971-2000 (USDA 2024)

³Displayed in inches

*Missing data so this value is an underestimate

2.2 Drainage Basins

The Project is within the Tuscarawas watershed, corresponding to 8-digit Hydrologic Unit Code (HUC) 05040001. More specifically it crosses the five drainage basins outlined in Table 2-2 (USGS 2024).

TABLE 2-2: Watersheds Crossed by the Project

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

HUC 12-Digit Code	HUC 12-Digit Name
50400010703	Dining Fork
50400010706	McGuire Creek
50400010403	Pipes Fork-Still Fork
50400010705	North Fork McGuire Creek
50400010801	Cold Spring Run-Indian Fork

Source: USGS 2024

2.3 Traditional Navigable Waters

The U.S. Environmental Protection Agency (USEPA) and USACE assert jurisdiction over “all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce including all waters which are subject to the ebb and flow of the tide” (USACE and EPA 2008). These waters are considered traditionally navigable waters (TNW). No TNW directly cross the ESB.

3 Wetland and Waterbody Delineation

3.1 Desktop Review

Prior to conducting the field investigations, Jacobs reviewed the following resources to identify the potential for wetlands within the ESB:

- Aerial photo-based maps (ESRI 2024)
- Topographic maps (USGS 2023a)
- NRCS Web Soil Survey (USDA-NRCS 2023)
- NWI shapefile (USFWS 2023)
- National Hydrography Dataset (USGS 2023b)

According to the NRCS soil survey of Carroll County (USDA-NRCS 2023), the ESB consists of 28 soil map units (Figures 2-1 to 2-42). Of these, 22 units are listed as not hydric, four are predominantly non-hydric, and two are predominantly hydric (Table 3-1). Hydric or predominantly hydric soils comprise 3 percent of the ESB.

Generally, hydric soils are those soils that indicate through their color and structure that they have experienced dominantly reducing (i.e., oxygen poor) conditions. Oxygen-poor conditions result from inundation and/or saturation by water. Partially hydric soils have both hydric and non-hydric soil components identified in the soil map unit.

TABLE 3-1: Soil Map Units

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Soil type	Soil type description	Hydric status	Acres within ESB
Bhv1D	Bethesda silt loam, 8 to 25 percent slopes, reclaimed	Predominantly Non-Hydric	0.53
BkB	Berks channery silt loam, 3 to 8 percent slopes	Not Hydric	0.73
BkC	Berks channery silt loam, 8 to 15 percent slopes	Not Hydric	2.03
BkD	Berks shaly silt loam, 15 to 25 percent slopes	Not Hydric	1.76
BkE	Berks channery silt loam, 25 to 35 percent slopes	Not Hydric	11.76
CnB	Coshocton silt loam, 3 to 8 percent slopes	Not Hydric	0.37
CoB	Coshocton-Keene silt loams, 3 to 8 percent slopes	Not Hydric	0.93
CuB	Culleoka silt loam, 3 to 8 percent slopes	Not Hydric	0.24
EbB	Elba silty clay loam, 3 to 8 percent slopes	Not Hydric	1.93
EcD2	Elba-Upshur silty clay loams, 15 to 25 percent slopes, eroded	Not Hydric	0.04
FaD	Fairpoint channery clay loam, 8 to 25 percent slopes	Predominantly Non-Hydric	0.75
GfB	Glenford silt loam, 3 to 8 percent slopes	Predominantly Non-Hydric	0.02
GuB	Guernsey silty clay loam, 3 to 8 percent slopes	Not Hydric	0.31
GuC2	Guernsey silty clay loam, 8 to 15 percent slopes, eroded	Not Hydric	1.03
HeB	Hazleton loam, 3 to 8 percent slopes	Not Hydric	2.33
HeE	Hazleton loam, 25 to 40 percent slopes	Not Hydric	0.81
Ho	Holly silt loam, ponded	Predominantly Hydric	0.99
Or	Orrville silt loam, 0 to 3 percent slopes, occasionally flooded	Predominantly Non-Hydric	2.86
RgB	Rigley sandy loam, 3 to 8 percent slopes	Not Hydric	5.24
RgC	Rigley sandy loam, 8 to 15 percent slopes	Not Hydric	11.10
RgD	Rigley sandy loam, 15 to 25 percent slopes	Not Hydric	15.79

RgE	Rigley sandy loam, 25 to 40 percent slopes	Not Hydric	7.88
Sb	Sebring silt loam	Predominantly Hydric	4.69
WhB	Wellston silt loam, 3 to 8 percent slopes	Not Hydric	0.18
WkD	Westmoreland silt loam, 15 to 25 percent slopes	Not Hydric	4.50
WkE	Westmoreland silt loam, 25 to 35 percent slopes	Not Hydric	3.34
WmC	Westmoreland-Coshocton silt loams, 8 to 15 percent slopes	Not Hydric	41.52
WmD	Westmoreland-Coshocton silt loams, 15 to 25 percent slopes	Not Hydric	24.21

NWI data were obtained from the United States Fish and Wildlife Service (USFWS) for review of potential wetlands that may occur within the ESB. The NWI data (USFWS 2023) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al. 1979). The NWI data indicated that there are 15 NWI features within the ESB (Figure 2-1 to 2-42; USFWS 2023). This included emergent, forested, pond, and riverine NWI wetland types (Table 3-2). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked.

TABLE 3-2: Mapped National Wetland Inventory Features

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Wetland Type	Description	Count of Mapped Features	Acres within ESB
PEM1A	Palustrine emergent, persistent, temporarily flooded	2	0.91
PEM1C	Palustrine emergent, persistent, seasonally flooded	1	0.08
PFO1C	Palustrine forested, broad-leaved deciduous, seasonally flooded	1	0.01
PUBGx	Palustrine unconsolidated bottom, intermittently exposed, excavated	3	0.68
R4SBC	Riverine intermittent streambed, seasonally flooded	1	0.26
R5UBH	Riverine unknown perennial unconsolidated bottom, permanently flooded	7	0.67

As shown on the FEMA floodplain panels (Figures 2-1 to 2-42), a floodplain associated with Pipe Run (Stream WP-02) crosses the ESB (FEMA 2010).

3.2 Field Survey Methodology

In April and May 2024, Jacobs biologists surveyed the ESB by walking the area and evaluating for wetlands and other waters of the U.S. The boundaries of each wetland and waterbody within the ESB were delineated and recorded using handheld global navigation satellite system (GNSS) receivers. For waterbodies identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland data were recorded on USACE Eastern Mountains and Piedmont wetland determination data forms, stream data were recorded on QHEI forms and HHEI forms, and pond data were recorded on Jacobs Pond/open water forms. All other land use, habitat, and other supplemental data were collected in a digital geodatabase during the environmental survey.

3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to using the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* and subsequent guidance documents (Environmental Laboratory 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont*

Region (Version 2.0) (USACE 2012). Wetland delineation data were recorded on the USACE Regional Supplement wetland determination data forms. Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or to document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

3.2.1.1 Soils

Jacobs biologists examined soils using a shovel to extract soil cores, which were examined for hydric soil characteristics. A *Munsell Soil Color Chart* (Munsell Color 2012) was used to identify the hue, value, and chroma of the matrix and concentrations/depletions of the soils. Generally, mottled soils with a matrix chroma of two or less, or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory 1987). In sandy soils, mottled soils with a matrix chroma of three or less, or unmottled soils with a matrix chroma of two or less are hydric soils.

3.2.1.2 Hydrology

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

The soils and ground surface were examined by Jacobs biologists for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and the *Regional Supplement*. Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits, and oxidized rhizospheres on living roots; and secondary indicators such as drainage patterns, geomorphic position, microtopographic relief, and a positive Facultative (FAC)-neutral test (USACE 2012).

3.2.1.3 Vegetation

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb, and woody vine) and an indicator status (obligate wetland [OBL], facultative wetland [FACW], facultative [FAC], facultative upland [FACU], upland [UPL]) was assigned to each plant species based on the 2020 National Wetland Plant List. Under normal circumstances, an area is determined to have hydrophytic vegetation when any of the following are true: all dominant species are OBL or FACW; more than 50 percent of the dominant species are OBL, FACW or FAC; or the average total cover of plants, when weighted based on indicator status, calculates to a prevalence index of less than or equal to three.

Wetland quality was evaluated using the Ohio Environmental Protection Agency (OEPA) ORAM Version 5.0 (Mack 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA 2000). Wetlands are scored based on hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to

100 are "Category 3". Transitional zones exist between Categories 1 and 2 from 30 to 34.9 and between Categories 2 and 3 from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack 2001).

3.2.2 Stream Assessment

Jurisdictional streams were identified as those waters that possessed a continuously defined bed and bank, OHWM indicators, and lacked a dominance of upland vegetation in the channel. Per USACE guidance, the OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE 2005). Channels that parallel a roadway or railroad were identified as upland drainage features and were not considered to be jurisdictional unless they had an identifiable OHWM, were identified on the USGS topographic map, or represented a presumed relocation of a natural channel.

During the field survey, functional stream assessments were conducted using the methods described in *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index* (OEPA 2006) and *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA 2020). The QHEI is used to characterize larger streams (drainage areas greater than one square mile), while the HHEI is appropriate for first-order and second-order headwater streams (drainage areas less than one square mile).

4 Field Survey Results

Jacobs biologists surveyed the Project area on April 30-May 2 and May 21-23, 2024 by walking the ESB and evaluating for wetlands and other waters of the U.S. Twenty-six wetlands, 35 streams, and five ponds were delineated within the ESB; these features are displayed and identified on the Wetlands and Waterbodies Delineation Map (Figures 3-1 to 3-42). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction.

4.1 Wetlands

Twenty-six wetlands were delineated, ranging in size from less than 0.01 to 1.12 acres within the ESB. All 26 wetlands were identified as palustrine emergent (PEM) wetlands. No palustrine scrub-shrub (PSS) or palustrine forested (PFO) wetlands were observed within the ESB. These wetlands are depicted in Figures 3-1 to 3-42. The reported wetland acreage only corresponds to areas delineated within the ESB, as some wetlands extended beyond the survey boundary.

Completed USACE wetland and upland determination forms are provided in Appendix B. Representative photographs were taken of each wetland during the field survey and are appended to each USACE wetland and upland form. Detailed information for each delineated wetland within the ESB is provided in Table 4-1.

TABLE 4-1: Delineated Wetlands

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Wetland ID	Location		Wetland Type ¹	Acres within ESB	ORAM Score, Category
	Latitude	Longitude			
Wetland WP-01	40.62214	-81.04252	PEM	0.39	42.5, Category 2
Wetland WP-02	40.61982	-81.04265	PEM	1.12	36, Category 2
Wetland WP-03	40.61755	-81.04273	PEM	0.09	22, Category 1
Wetland WP-04	40.61565	-81.04283	PEM	0.16	34.5, Category 2
Wetland WP-05	40.61371	-81.04292	PEM	0.51	35, Category 2
Wetland WP-06	40.60825	-81.04316	PEM	0.06	26.5, Category 1
Wetland WP-07	40.60554	-81.04331	PEM	0.04	27.5, Category 1
Wetland WP-08	40.59858	-81.04349	PEM	0.08	35.5, Category 2
Wetland WP-09	40.58039	-81.04479	PEM	0.01	28.5, Category 1
Wetland WP-10	40.57254	-81.04606	PEM	0.10	24.5, Category 1
Wetland WP-11	40.57001	-81.04600	PEM	0.08	22, Category 1
Wetland WP-12	40.56713	-81.04561	PEM	0.02	29, Category 1
Wetland WP-13	40.56438	-81.04559	PEM	0.03	27, Category 1
Wetland WP-14	40.54575	-81.04696	PEM	<0.01	17.5, Category 1
Wetland WP-15	40.53200	-81.04666	PEM	0.40	42.5, Category 2
Wetland WP-16	40.52306	-81.04708	PEM	0.62	39.5, Category 2
Wetland WP-17	40.51728	-81.04723	PEM	0.08	19, Category 1
Wetland WP-18	40.51682	-81.04737	PEM	0.04	28.5, Category 1
Wetland WP-19	40.51507	-81.04735	PEM	0.01	28.5, Category 1
Wetland WP-20	40.50299	-81.04899	PEM	0.06	22, Category 1
Wetland WP-21	40.50225	-81.04798	PEM	0.19	27.5, Category 1
Wetland WP-22	40.48754	-81.04873	PEM	0.48	31.5, Category 2
Wetland WP-23	40.48203	-81.04901	PEM	0.04	17, Category 1

TABLE 4-1: Delineated Wetlands

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Wetland ID	Location		Wetland Type ¹	Acres within ESB	ORAM Score, Category
	Latitude	Longitude			
Wetland WP-24	40.47493	-81.04943	PEM	0.03	25.5, Category 1
Wetland WP-25	40.47152	-81.04945	PEM	0.07	28.5, Category 1
Wetland WP-26	40.46925	-81.04945	PEM	0.38	34, Category 2

¹Cowardin et al. 1979.

4.1.1 Wetland ORAM Results

Seventeen Category 1 wetlands and nine Category 2 wetlands were identified within the ESB. No Category 3 wetlands were identified within the ESB. Table 4-1 provides summary information regarding wetlands identified within the ESB, and completed ORAM forms are included in Appendix C.

The 17 PEM wetlands identified as Category 1 wetlands were based on ORAM scores ranging from 17 to 29. Generally, the Category 1 wetlands scored low due to factors such as narrow buffer width, moderate to high intensity surrounding land use, moderate hydrology, poor to fair habitat development, habitat alteration, low quality vegetation communities, lack of horizontal interspersion, presence of invasive species, and minimal microtopography.

The nine PEM wetlands identified as Category 2 wetlands were based on ORAM scores ranging from 31.5 to 42.5. These Category 2 wetlands exhibited much of the same characteristics as a Category 1 wetland but with a greater buffer width, recovery from habitat alteration, and no invasive species cover.

4.2 Streams

Thirty-five streams were identified, totaling 5,175 linear feet within the ESB. Of the 35 streams, 13 were identified as ephemeral streams, 13 were intermittent streams, and nine were perennial streams. Five streams were assessed using the QHEI methodology (drainage area greater than one square mile) and 30 streams were assessed using the HHEI methodology (drainage area less than one square mile).

Completed QHEI and HHEI forms are provided in Appendix D and E, respectively. Representative photographs were taken of each stream during the field survey and are appended to each QHEI and HHEI stream form. Detailed information for each delineated stream within the ESB is provided in Table 4-2.

TABLE 4-2: Delineated Streams

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Stream ID	Location		Flow Regime ¹	Length (feet) within ESB	Average OHWM Width (feet)
	Latitude	Longitude			
Stream WP-01	40.61774	-81.04272	Intermittent	79	1
Stream WP-02	40.61538	-81.04283	Perennial	363	5
Stream WP-03	40.61401	-81.04289	Perennial	114	3
Stream WP-04	40.60824	-81.04316	Ephemeral	122	3
Stream WP-05	40.60550	-81.04325	Ephemeral	116	1
Stream WP-06	40.60257	-81.04336	Intermittent	124	3
Stream WP-07	40.59926	-81.04528	Ephemeral	67	2
Stream WP-08	40.59871	-81.04355	Perennial	149	3
Stream WP-09	40.58098	-81.04468	Intermittent	20	1

TABLE 4-2: Delineated Streams

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Stream ID	Location		Flow Regime ¹	Length (feet) within ESB	Average OHWM Width (feet)
	Latitude	Longitude			
Stream WP-10	40.57777	-81.04545	Ephemeral	113	1
Stream WP-11	40.57433	-81.05013	Intermittent	61	3
Stream WP-12	40.57255	-81.04608	Perennial	213	3
Stream WP-13	40.57222	-81.04605	Intermittent	116	4
Stream WP-14	40.56671	-81.04574	Ephemeral	490	1.5
Stream WP-15	40.56435	-81.04564	Perennial	102	4
Stream WP-16	40.55629	-81.04556	Ephemeral	76	1
Stream WP-17	40.55550	-81.04552	Ephemeral	102	1
Stream WP-18	40.54315	-81.04602	Ephemeral	61	2
Stream WP-19	40.54022	-81.04629	Ephemeral	102	2
Stream WP-20	40.53630	-81.04651	Intermittent	187	5
Stream WP-21	40.53187	-81.04680	Perennial	203	7
Stream WP-22	40.53139	-81.04657	Intermittent	84	3
Stream WP-23	40.52333	-81.04711	Perennial	245	3.5
Stream WP-24	40.52190	-81.04703	Intermittent	216	1.5
Stream WP-25	40.51497	-81.04742	Intermittent	143	1.5
Stream WP-26	40.50926	-81.04768	Ephemeral	104	1
Stream WP-27	40.50905	-81.04763	Ephemeral	82	2
Stream WP-28	40.50249	-81.04794	Perennial	196	5
Stream WP-29	40.50196	-81.04789	Ephemeral	52	1
Stream WP-30	40.48719	-81.04869	Perennial	154	4
Stream WP-31	40.48685	-81.04861	Ephemeral	136	2
Stream WP-32	40.47458	-81.04953	Intermittent	380	5
Stream WP-33	40.47144	-81.04943	Intermittent	130	2
Stream WP-34	40.46723	-81.04941	Intermittent	101	6
Stream WP-35	40.46250	-81.04934	Intermittent	171	2

¹Flow regime estimated based on analysis of drainage area, gradient, and observations at the time of survey

4.2.1 QHEI Results

Five streams, totaling 1,047 linear feet within the ESB, were evaluated using QHEI methodology. Four were classified as Fair Warmwater streams and one was classified as a Poor Warmwater stream. The completed QHEI forms are included in Appendix D and Table 4-3 provides a summary of streams identified within the ESB that were assessed using the QHEI.

TABLE 4-3: QHEI Stream Summary

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Flow Regime	QHEI Narrative Category					Number of Streams	Length (feet) within ESB
	Very Poor Warmwater	Poor Warmwater	Fair Warmwater	Good Warmwater	Excellent Warmwater		
Perennial	0	1	4	0	0	5	1,047
Total	0	1	4	0	0	5	1,047

4.2.2 HHEI Results

Thirty headwater streams, totaling 4,128 linear feet within the ESB, were evaluated using the HHEI methodology. Eighteen of the streams were categorized as Modified Class II and 12 of the streams

were categorized as Modified Class I. Of the 30 streams, 13 were ephemeral, 13 were intermittent, and four were perennial streams. Completed HHEI forms are provided in Appendix E and Table 4-4 provides a summary of streams identified within the ESB that were assessed using the HHEI.

TABLE 4-4: HHEI Stream Summary

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Flow Regime ¹	HHEI Class					Number of Streams	Length (feet) within ESB ²
	Modified Class I	Class I	Modified Class II	Class II	Class III		
Ephemeral	11	0	2	0	0	13	1,623
Intermittent	1	0	12	0	0	13	1,812
Perennial	0	0	4	0	0	4	692
Total	12	0	18	0	0	30	4,128

¹Flow regime estimated based on analysis of drainage area, gradient, and observations at the time of survey.

²Numbers have been rounded for presentation purposes so the sum of the addends may not equal the total.

4.3 Ponds/Open Water

Five ponds, totaling 0.81 acres within the ESB, were identified and can be found on Figures 3-1 to 3-42. Detailed information for each delineated pond within the ESB is provided in Table 4-5. Representative photographs and more detailed information on pond conditions can be found in Appendix F.

TABLE 4-5: Delineated Ponds

Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project

Pond ID	Location		Acres within ESB
	Latitude	Longitude	
Pond WP-01	40.58117	-81.04482	0.13
Pond WP-02	40.57433	-81.04971	0.00
Pond WP-03	40.56407	-81.04564	0.34
Pond WP-04	40.54348	-81.04614	0.30
Pond WP-05	40.51503	-81.04750	0.04

5 Conclusion

Jacobs conducted an environmental survey of the Washington-Kilgore (Polo Road) 138 kV Transmission Line Rebuild Project on April 30-May 2 and May 21-23, 2024. Twenty-six wetlands, 35 streams, and five ponds were delineated within the environmental survey boundary. The 26 wetlands totaled 5.10 acres within the ESB and were all PEM wetlands. Of the 26 wetlands, 17 were identified as Category 1 wetlands and nine were identified as Category 2 wetlands. No Category 3 wetlands were identified within the ESB.

The 35 streams totaled 5,175 linear feet within the ESB and included 13 ephemeral streams, 13 intermittent streams, and nine perennial streams. Five streams were assessed using QHEI methodology (drainage area greater than 1 square mile) and 30 streams were assessed using the HHEI methodology (drainage area less than 1 square mile). Additionally, five ponds were identified totaling 0.81 acres within the ESB.

The jurisdiction of all assessed features will be determined by the USACE and state-established water quality standards based on hydrologic connectivity. Further coordination with the USACE and state regulating agency is recommended prior to the submittal of any permit or construction activities.

The results of the wetland and waterbody field survey described in this Report conducted by Jacobs are limited to what was identified within the ESB. The information contained in this Report is for a study area that may be much larger than the actual Project limits-of-disturbance for construction; therefore, lengths and acreages listed in this Report may likely not constitute the actual impacts of the Project at the time of construction. If permits are determined to be necessary, actual impacted lengths and/or acreages will be submitted in subsequent permit applications.

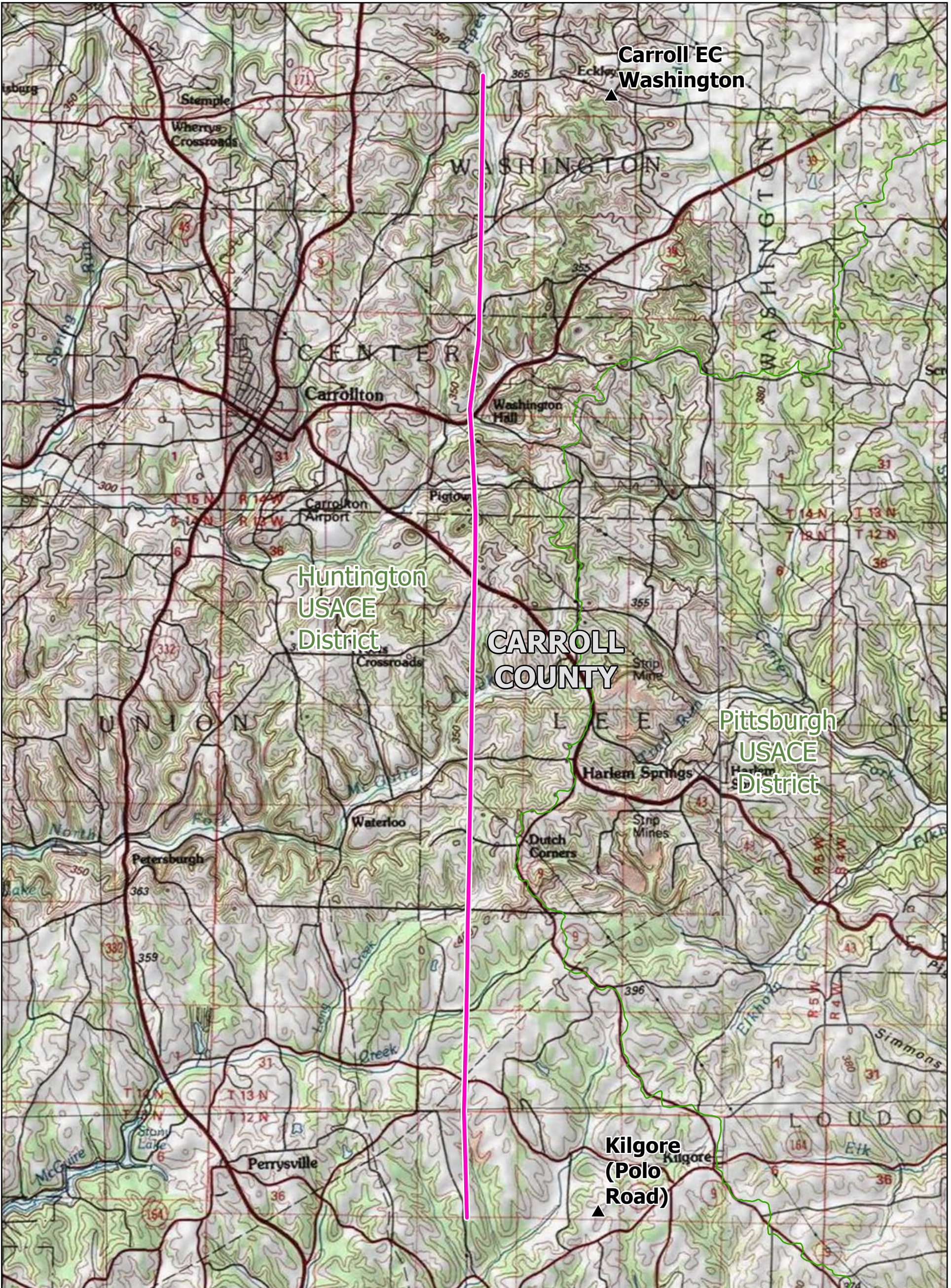
The wetland and waterbodies field survey results presented within this Report apply to the site conditions at the time of our assessment. Changes within the environmental survey boundary that may occur with time due to natural processes or human impacts at the project site or on adjacent properties, could invalidate the findings of this Report, especially if Jacobs is unaware and has not had the opportunity to revisit the Project. Additionally, changes in applicable standards and regulations may also occur as a result of legislation or the expansion of information over time. Therefore, the findings of this Report may be invalidated, wholly or in part, by changes that are beyond the control of Jacobs.

6 References

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Appendix A

Figures



Legend

- ▲ Substation
- Washington-Kilgore (Polo Road) - Phase 2
- ▭ County
- ▭ USACE District Boundary

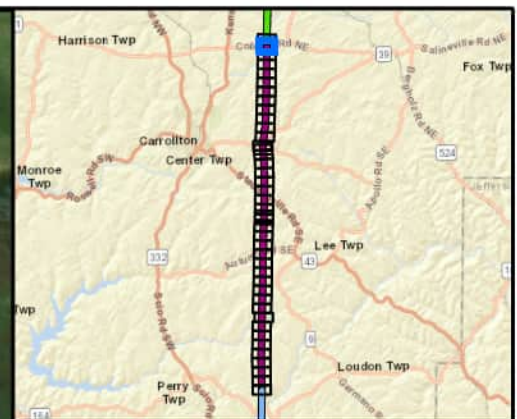
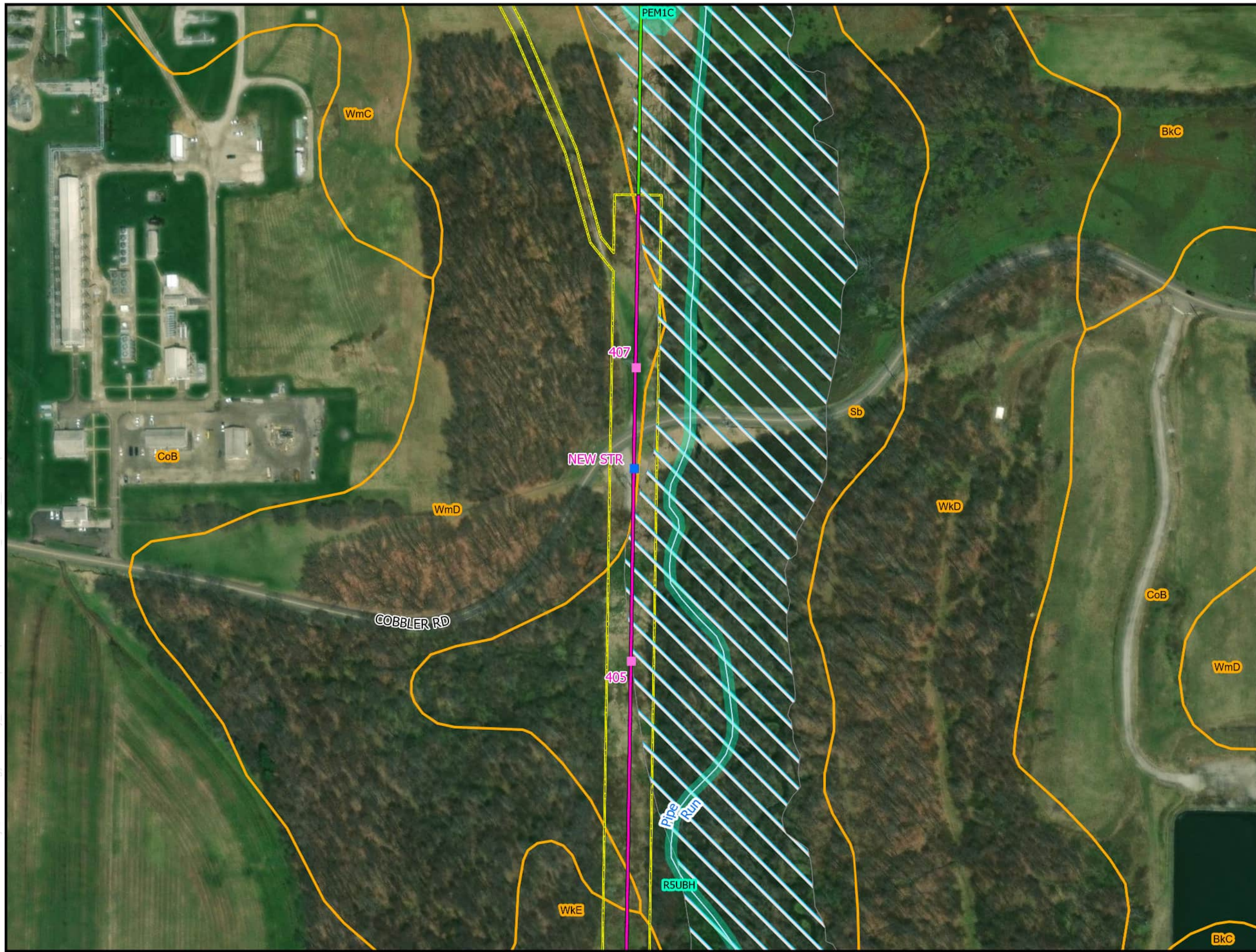


BASE MAP SOURCE:
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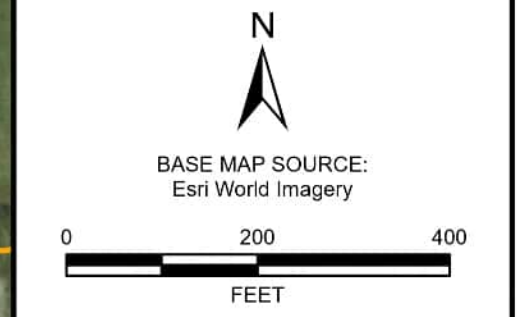
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	 <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	<small>Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project</small>
	FIGURE 1 OVERVIEW MAP	
	<small>PN: D3449600</small>	<small>DATE: 6/6/2024</small>
	<small>CREATED BY: RD</small>	
	<small>REVIEWED BY: BO</small>	

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- LEGEND:**
- Proposed Structure - Direct Embed
 - Proposed Structure - Other
 - Knox-Washington - Phase 1
 - Washington-Kilgore (Polo Road) - Phase 2
 - NHD Stream
 - NWI Wetland
 - ▨ 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary



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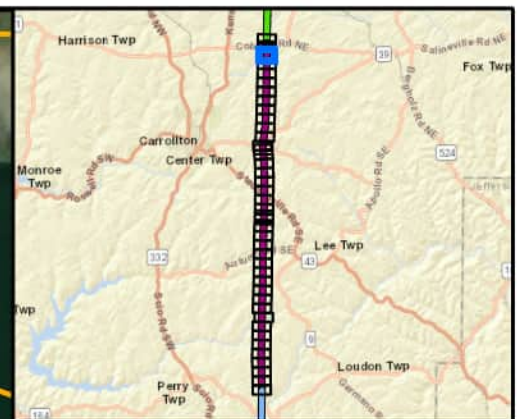
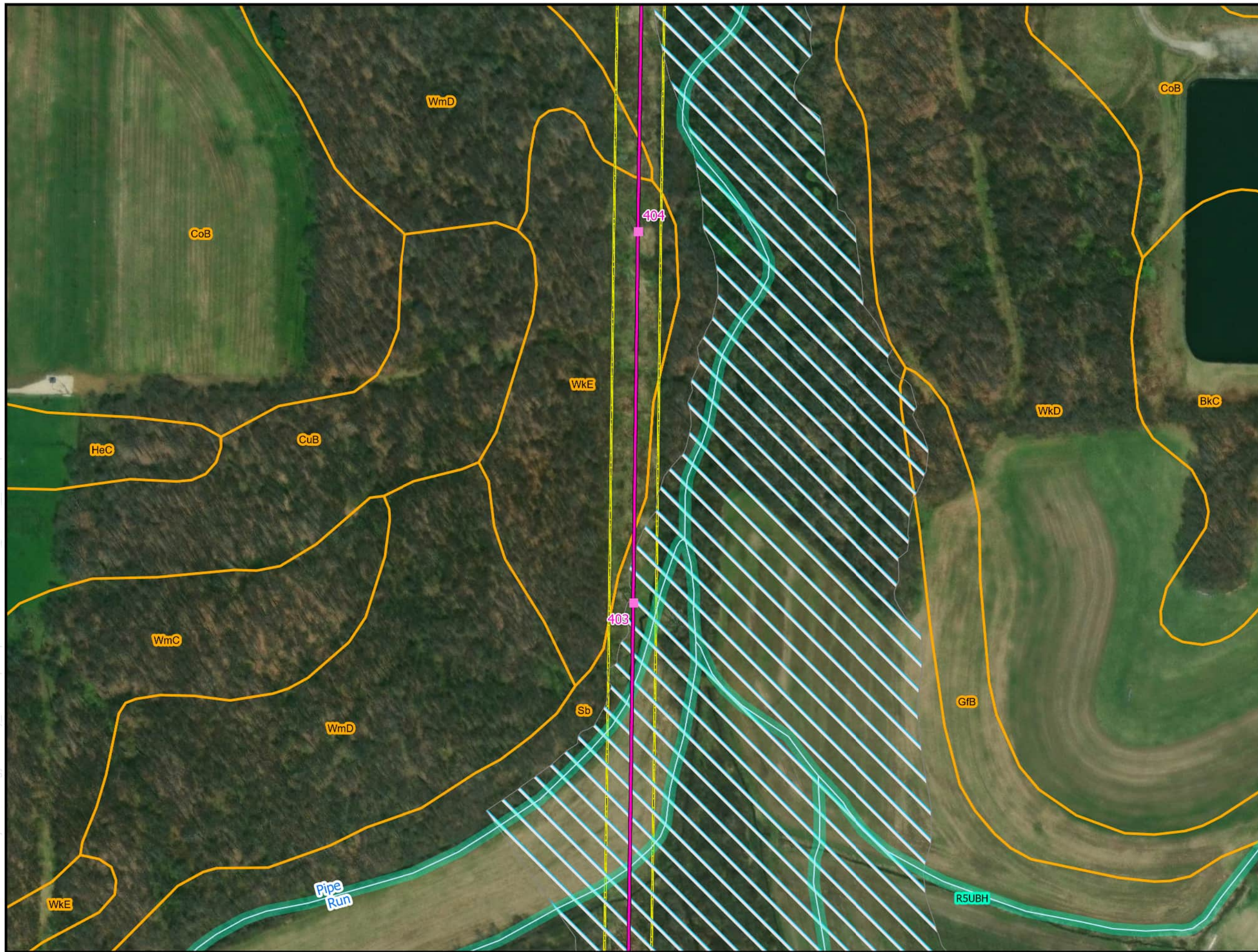
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-2
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024

Jacobs

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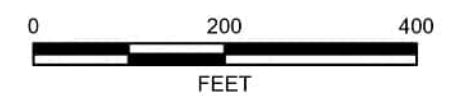


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

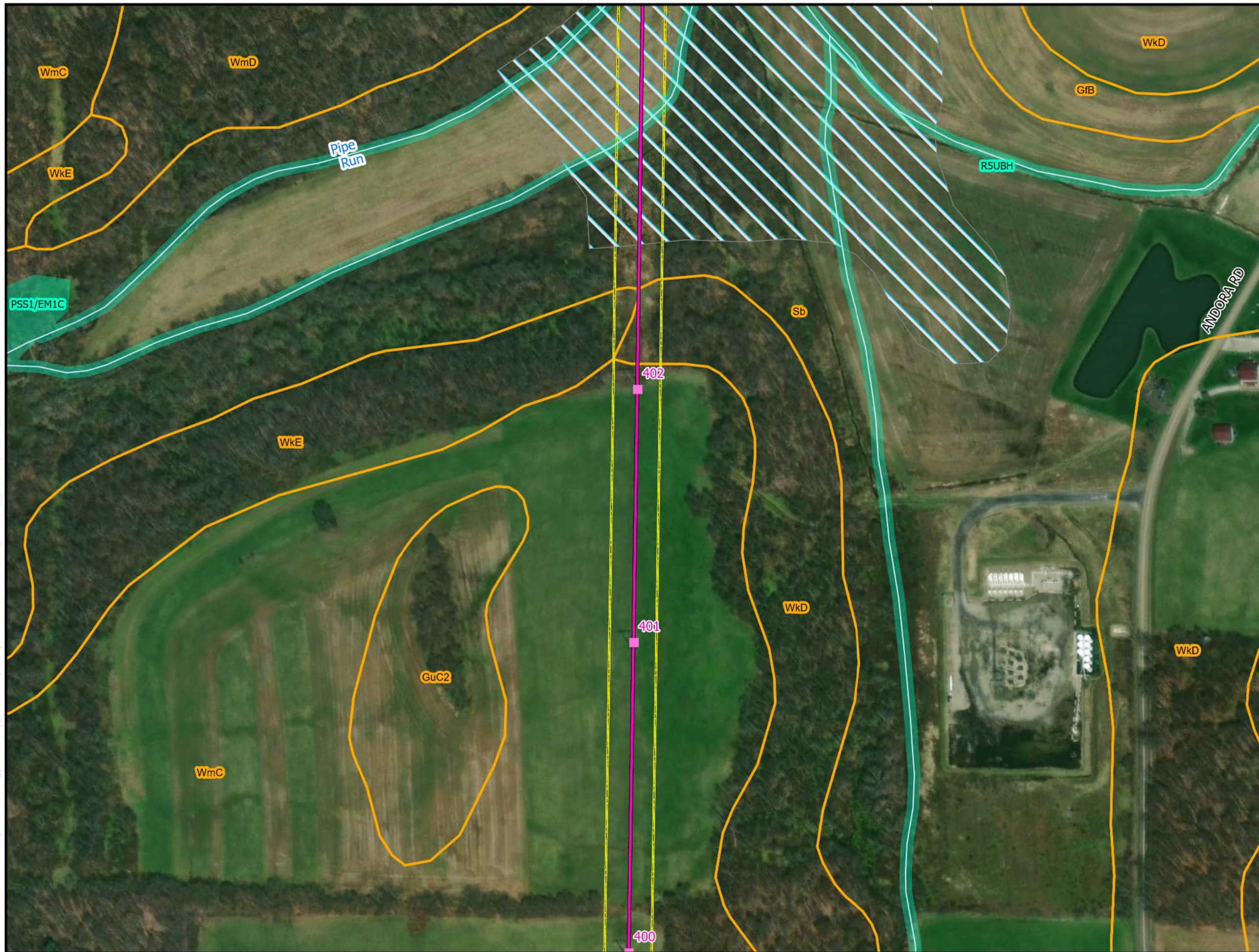


ATSI <small>American Transmission Systems, Inc. A subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 2-3
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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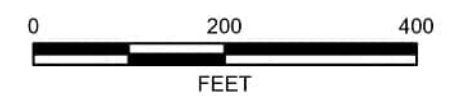


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



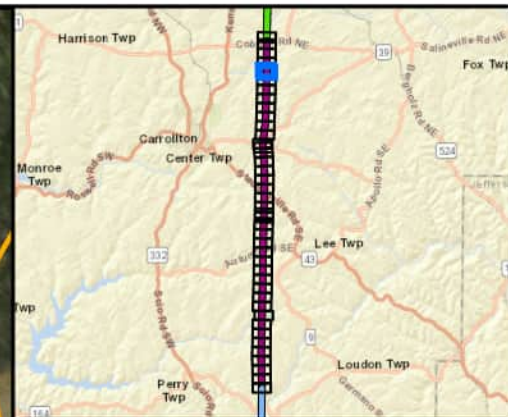
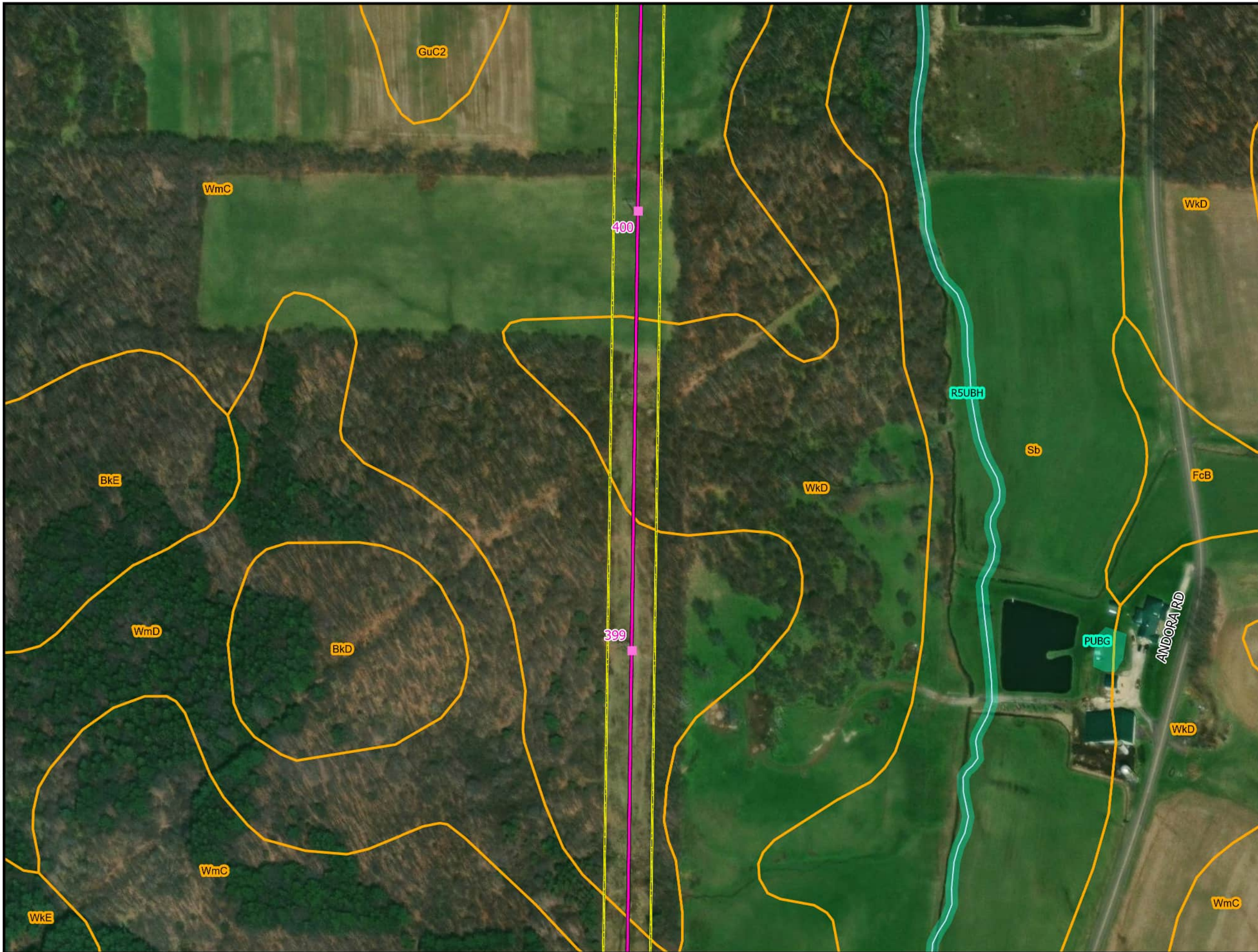
BASE MAP SOURCE:
Esri World Imagery



ATSI <small>American Transmission Systems, Inc. A subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 2-4
SOILS, NHD, NWI, FEMA MAP

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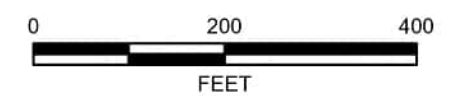


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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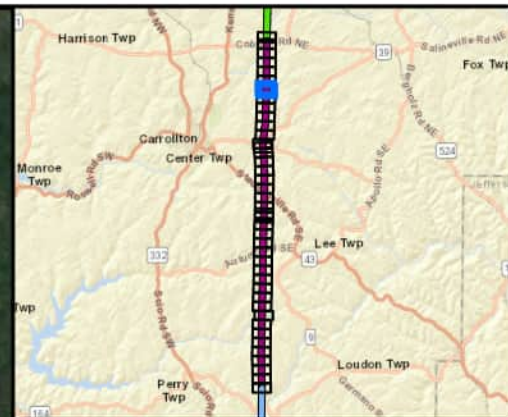
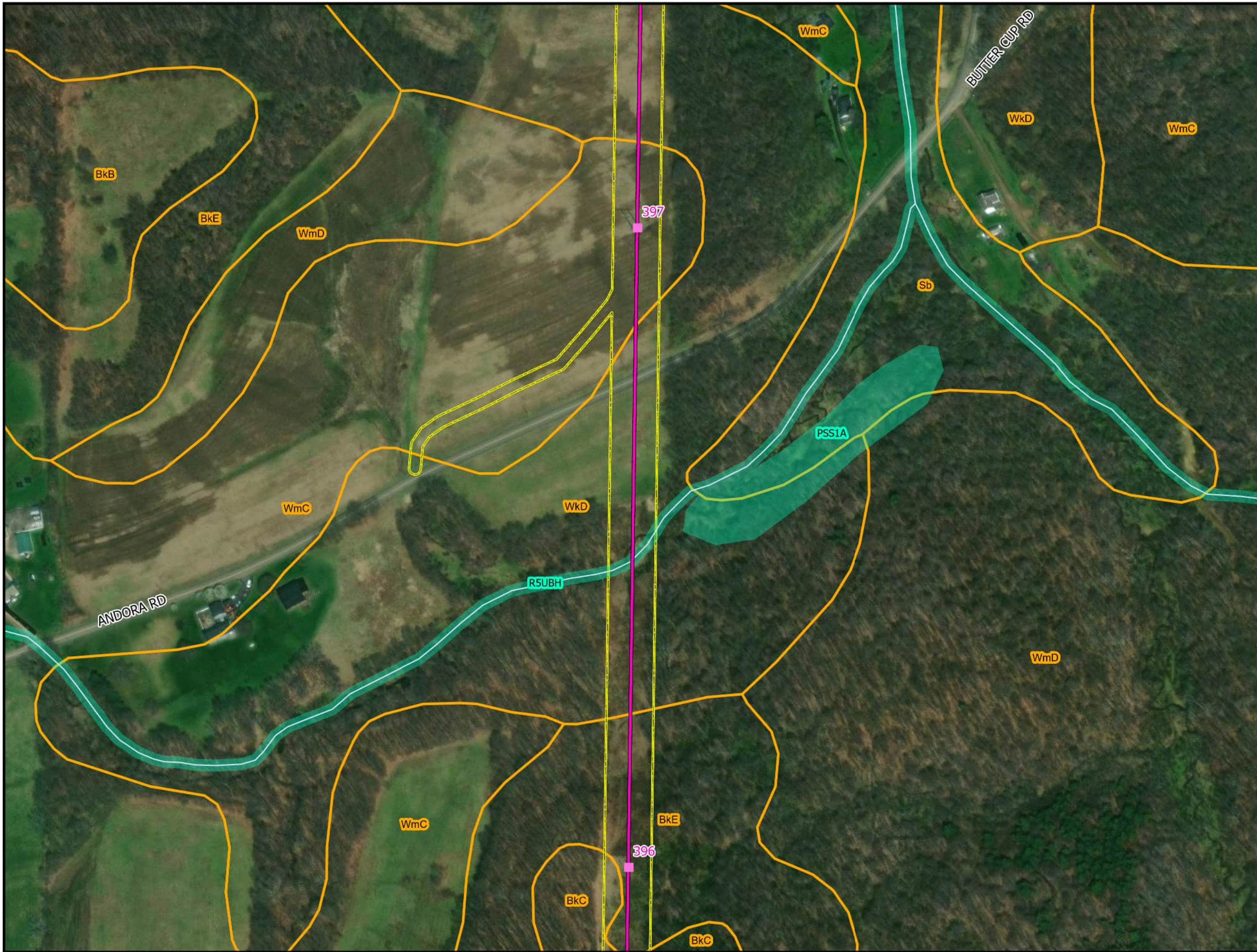
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-5
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024

Jacobs

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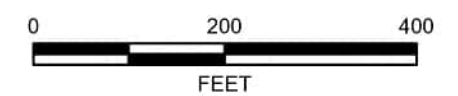


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



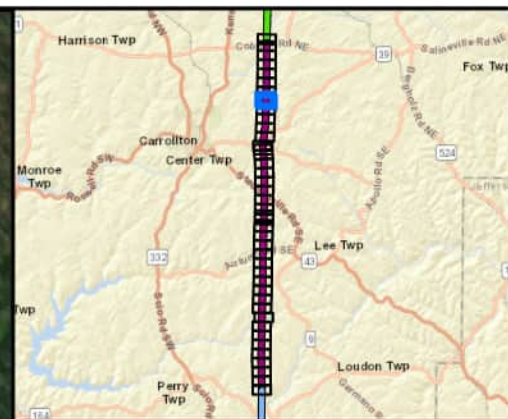
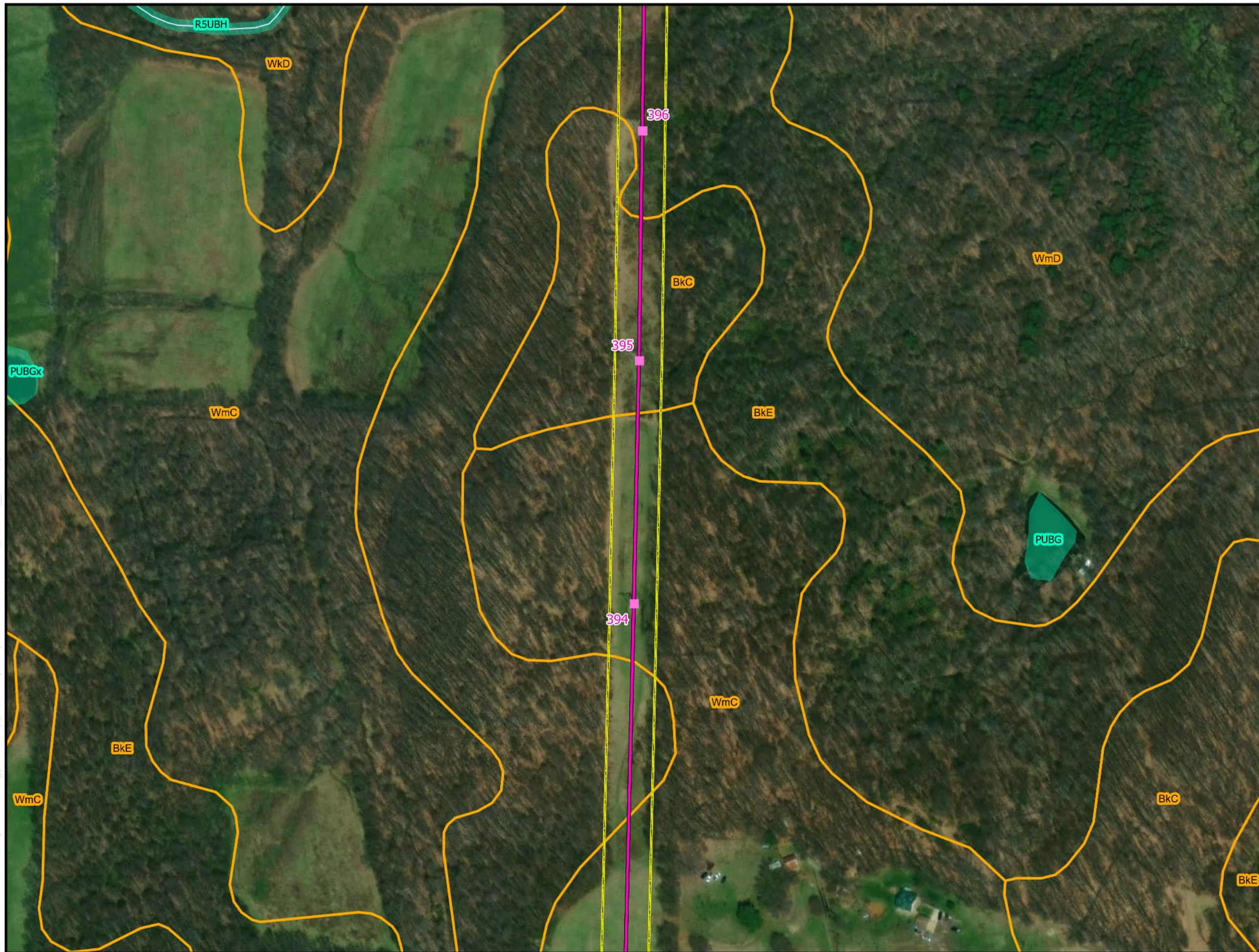
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-7
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024



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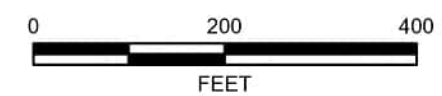


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



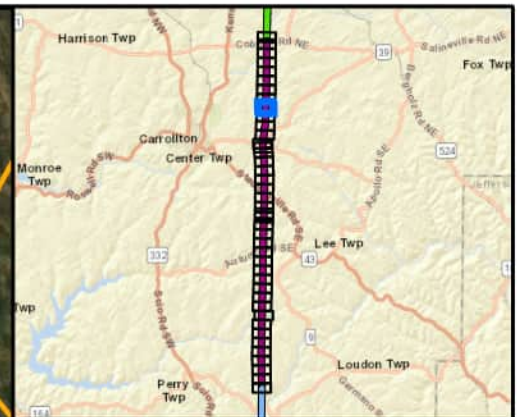
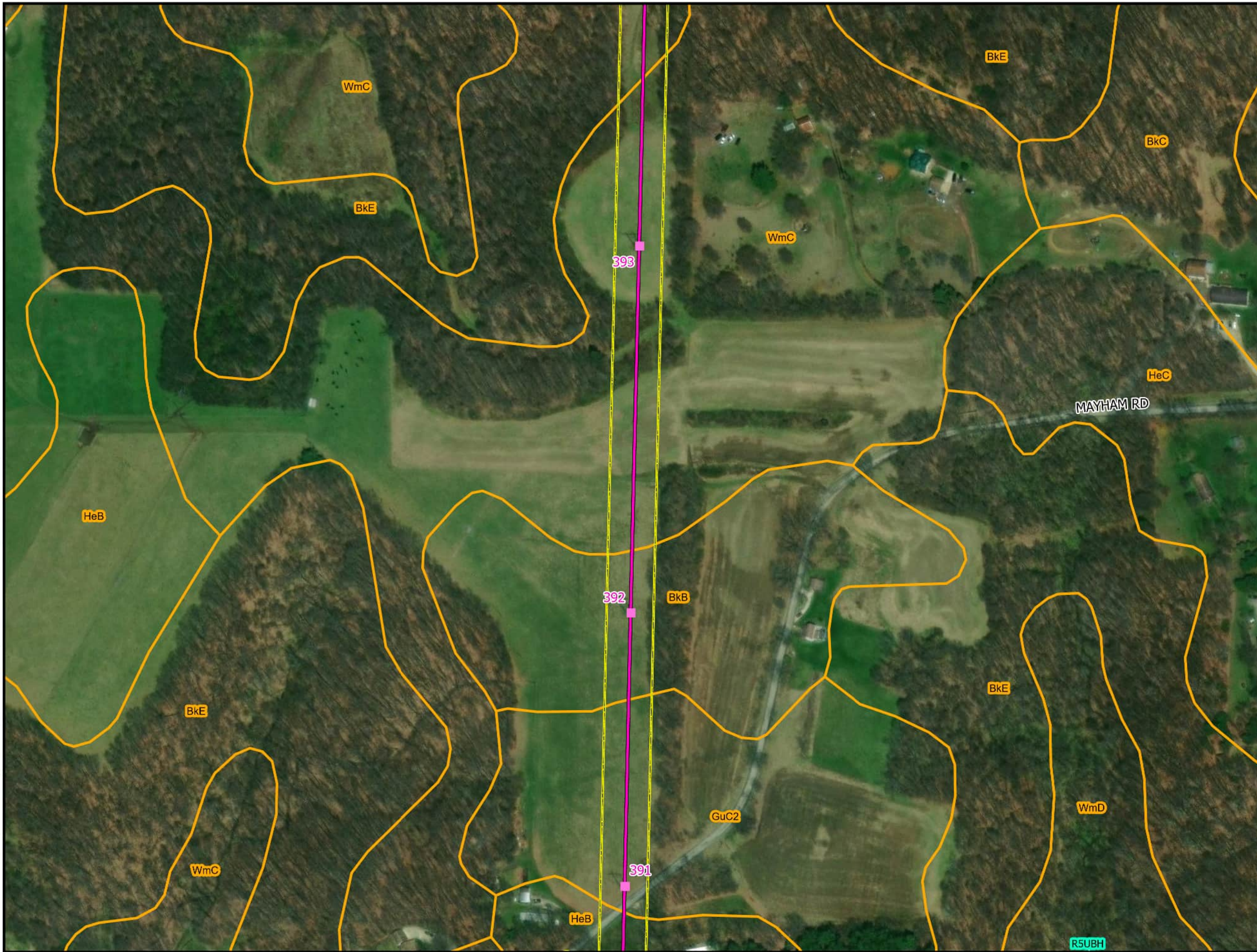
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-8
SOILS, NHD, NWI, FEMA MAP

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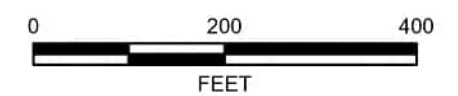


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

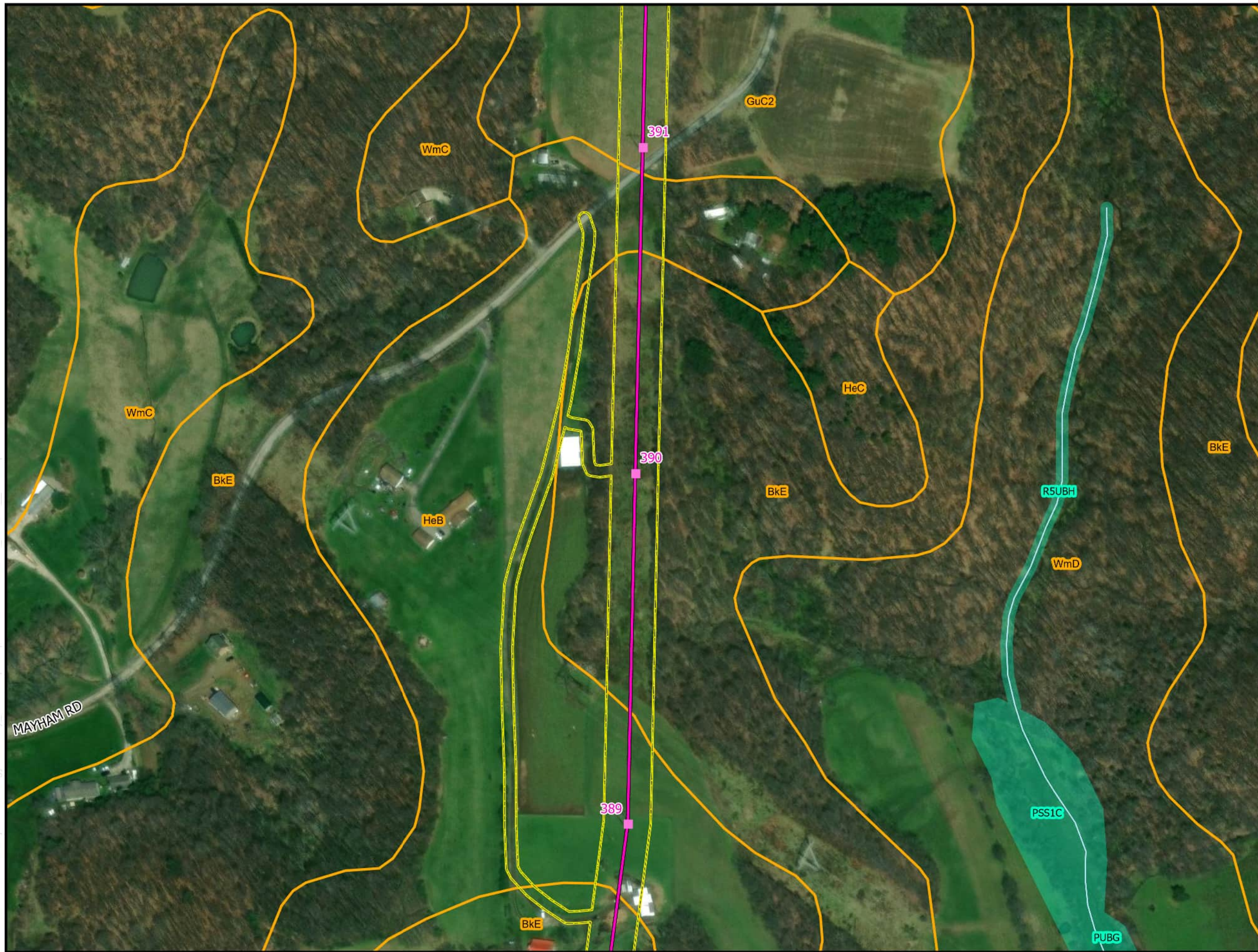


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FIGURE 2-9
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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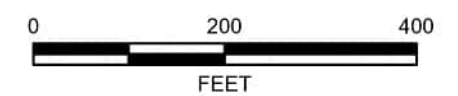


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



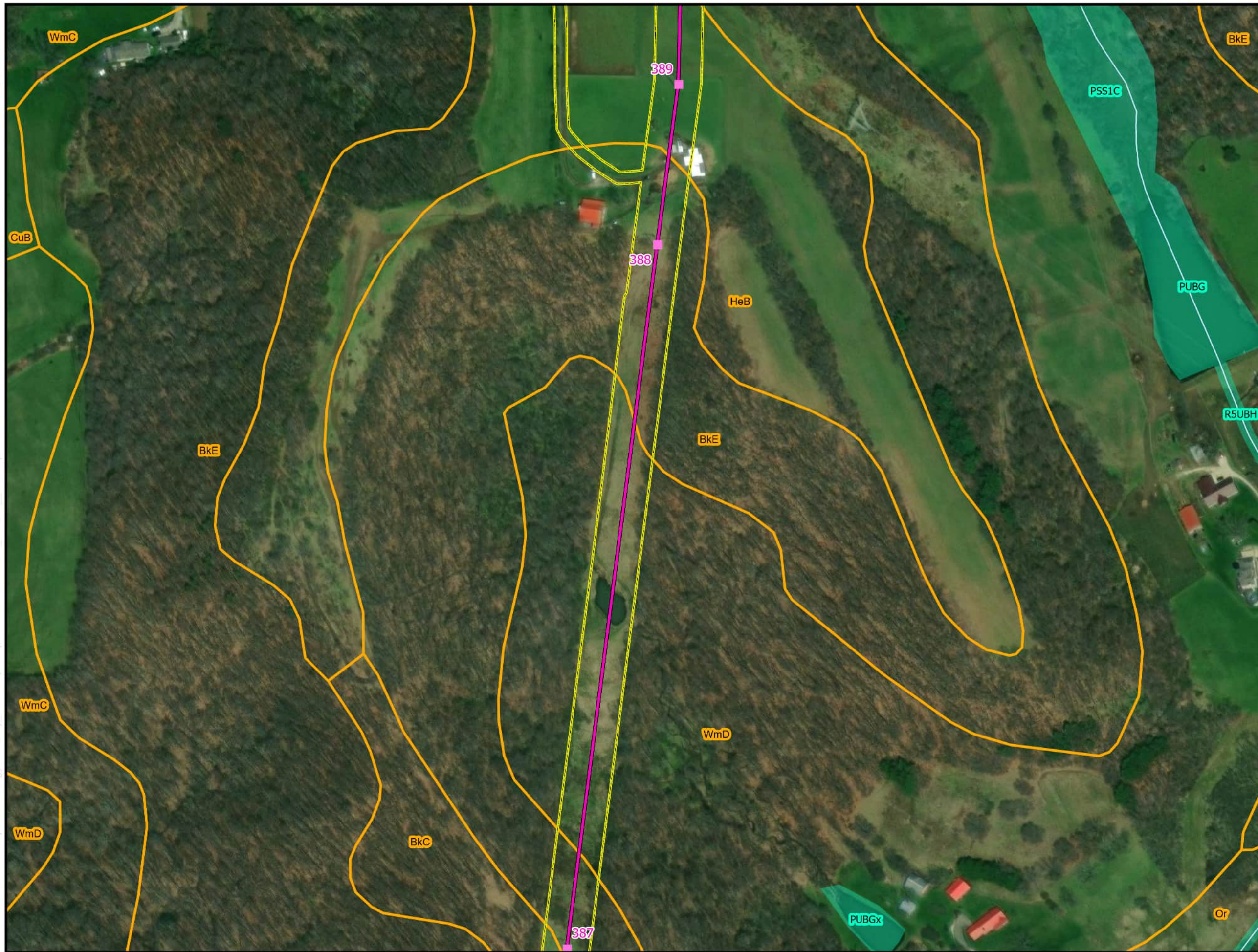
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-10
SOILS, NHD, NWI, FEMA MAP

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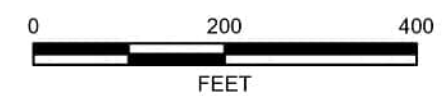


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-11
SOILS, NHD, NWI, FEMA MAP

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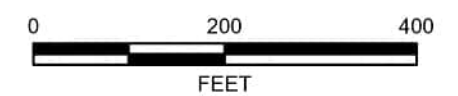


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



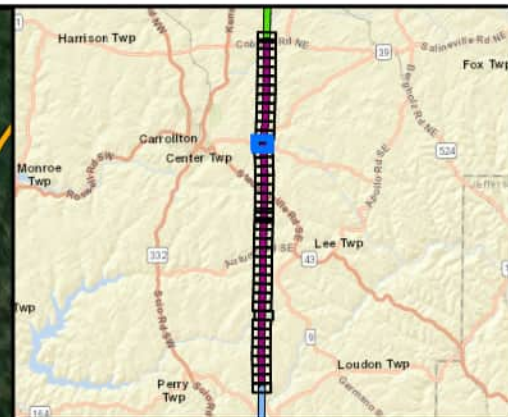
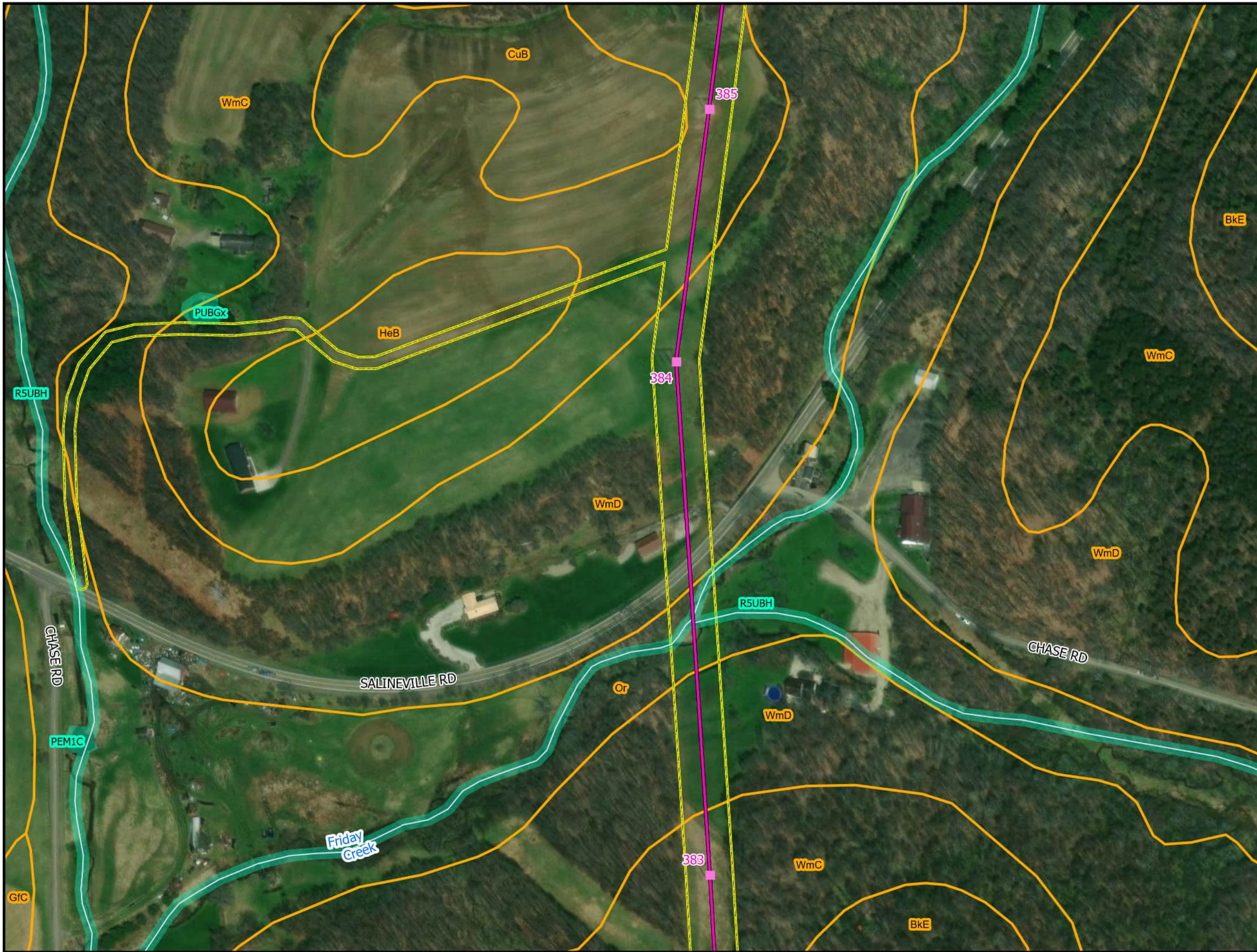
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-12
SOILS, NHD, NWI, FEMA MAP

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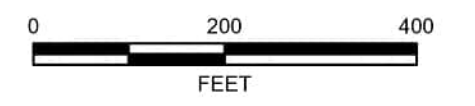


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



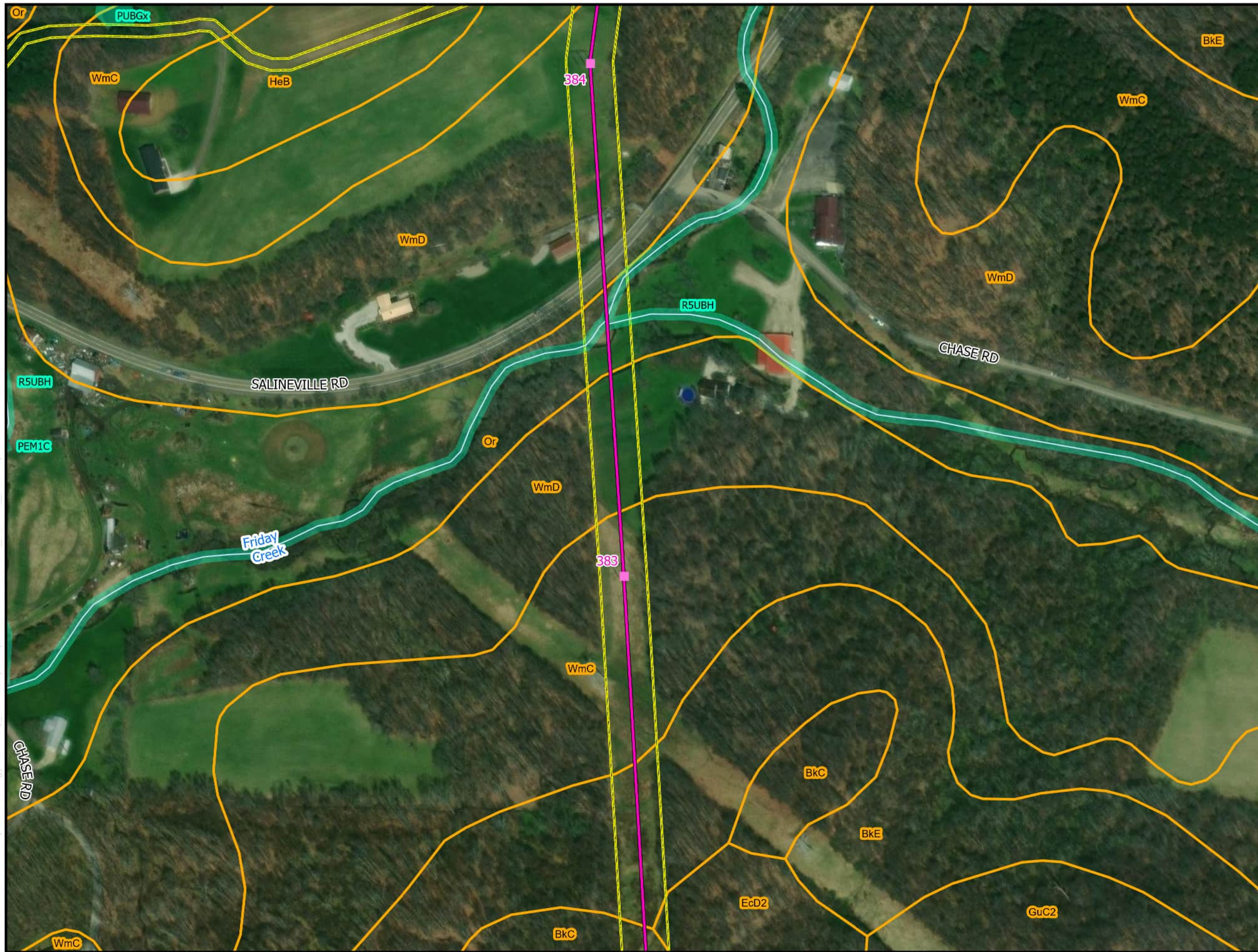
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-13
SOILS, NHD, NWI, FEMA MAP

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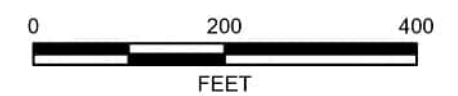


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



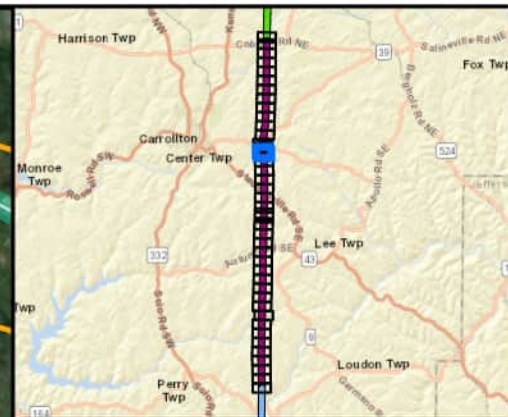
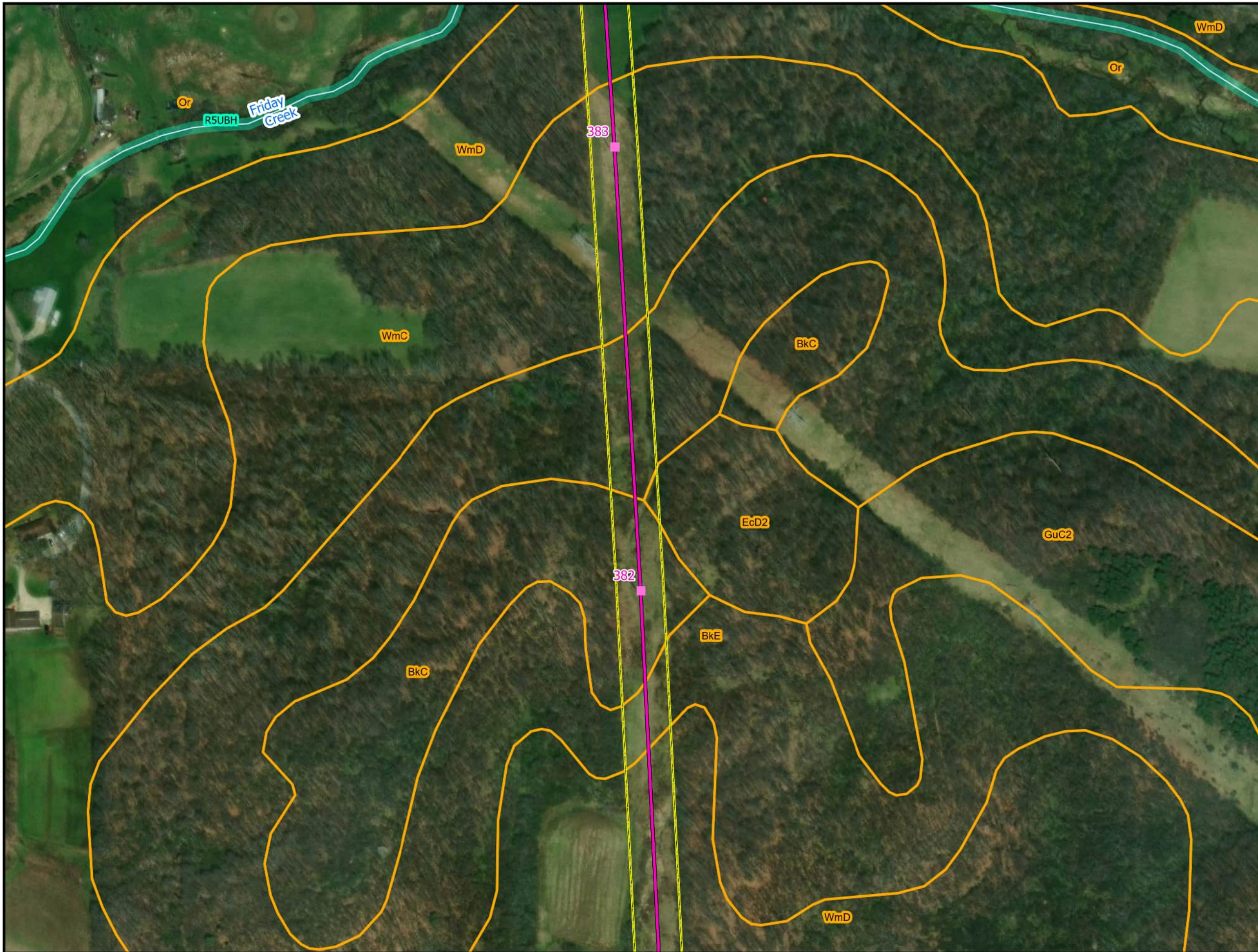
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-14
SOILS, NHD, NWI, FEMA MAP

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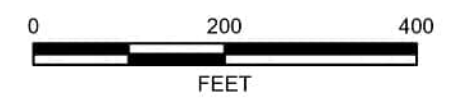


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

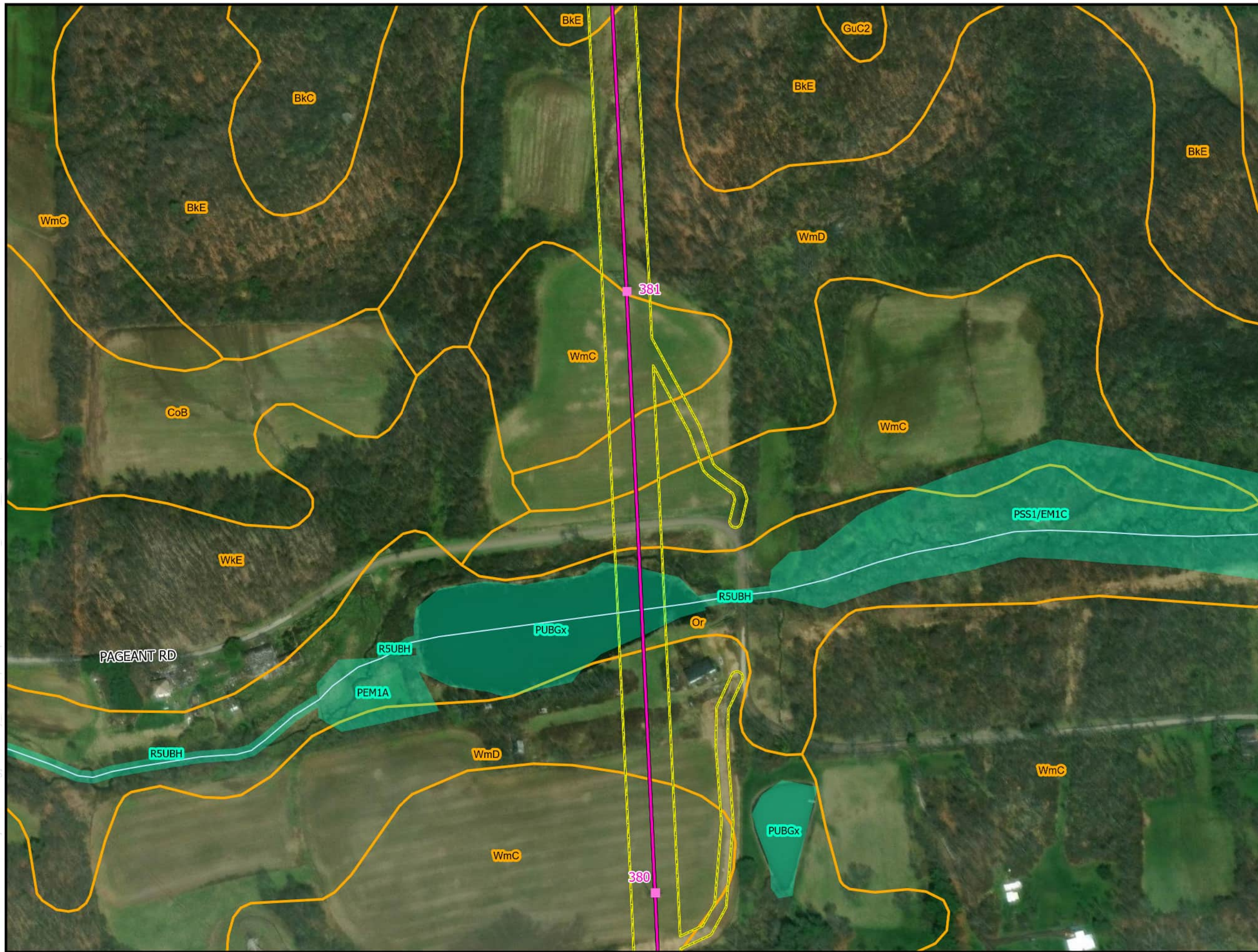


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FIGURE 2-15
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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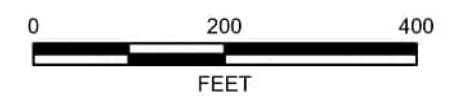


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



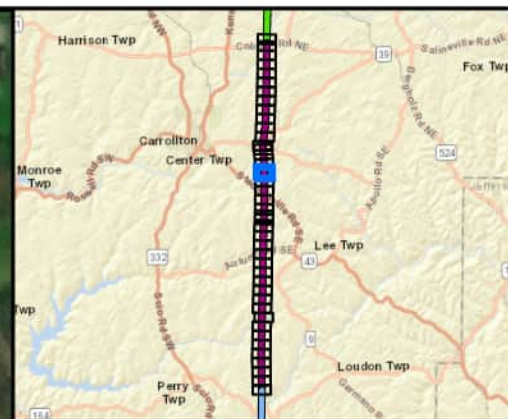
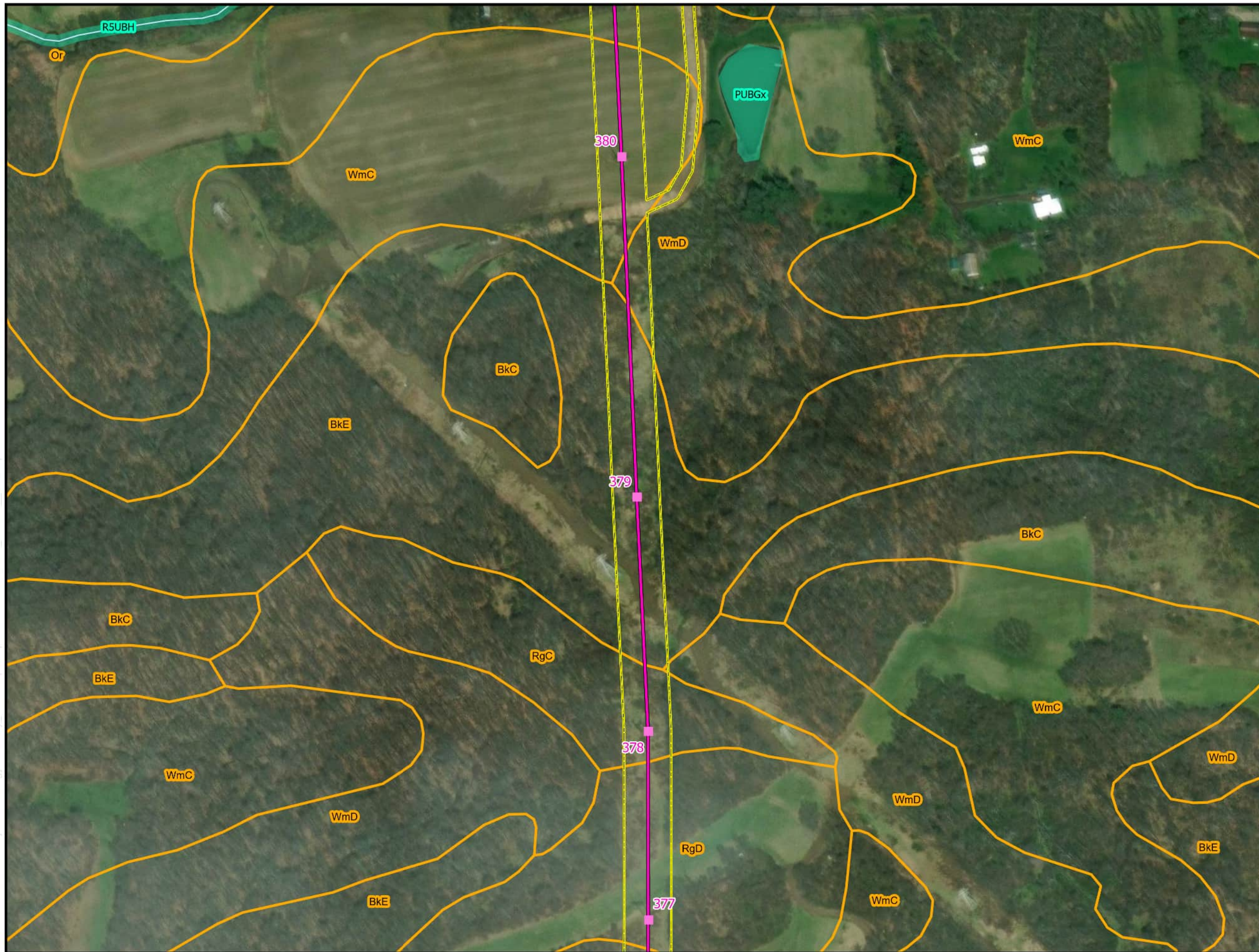
BASE MAP SOURCE:
Esri World Imagery



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--	--

FIGURE 2-16
SOILS, NHD, NWI, FEMA MAP

\\dr1vs01\GIS\Proj\1\FirstEnergy\Holloway_Knox\Map\Report\WDR\Phase2\1HK_Phase2_WDR.aprx

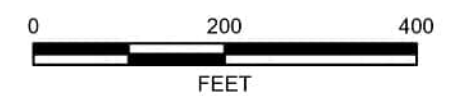


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



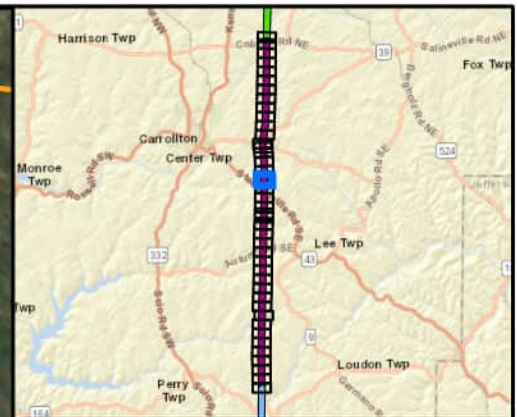
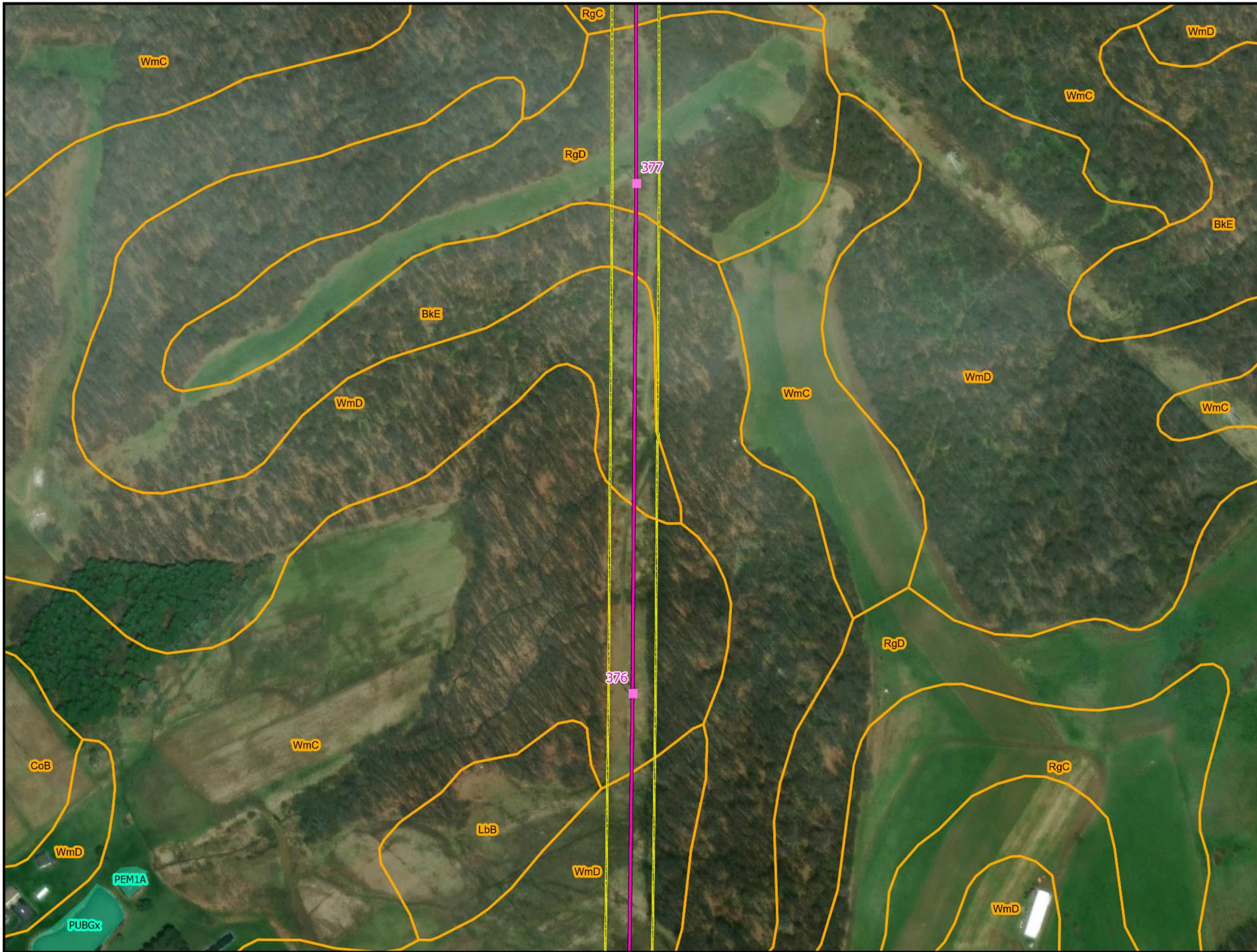
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-17
SOILS, NHD, NWI, FEMA MAP

\\dc1vs011\GIS\Proj\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\1HK_Phase2_WDR.aprx

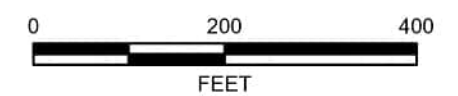


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

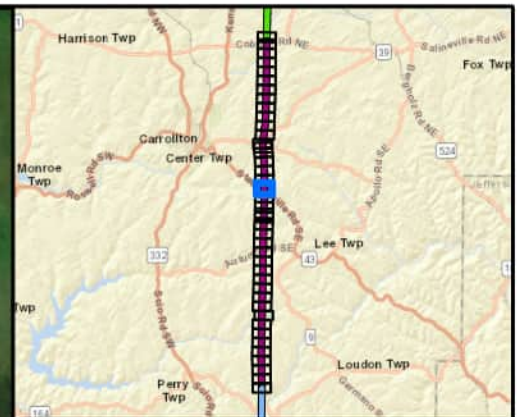


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FIGURE 2-18
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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\\dc1vs011\GIS\Project\FirstEnergy\Holloway_Knox\Main\Report\WDR\Phase2\1HK_Phase2_WDR.aprx

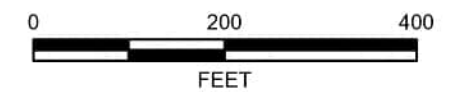


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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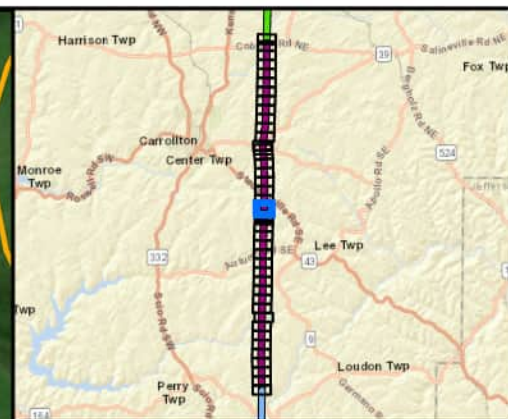
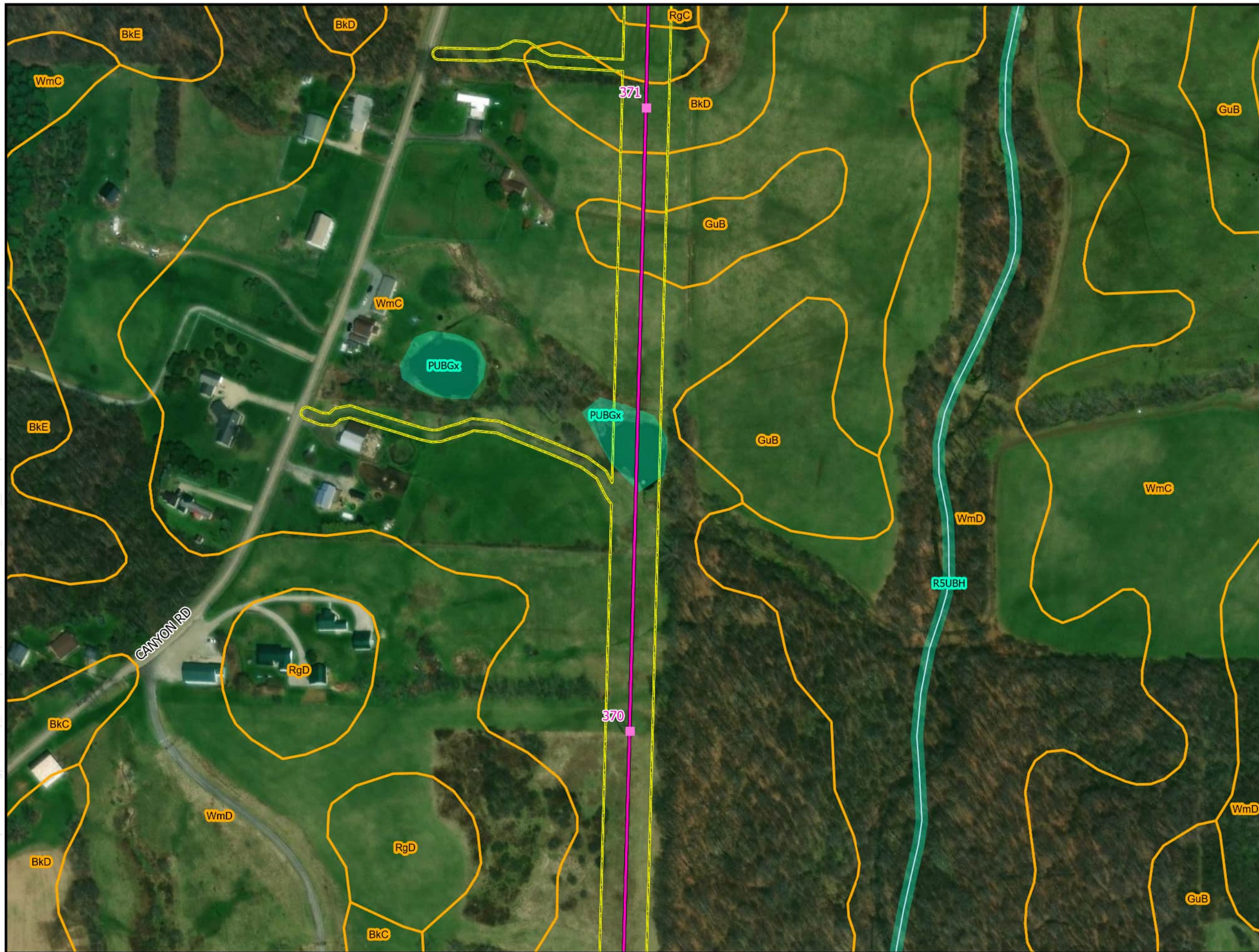
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-19
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024

Jacobs

\\dc1vs01\GIS\Proj\FirstEnergy\Holloway_Knox\Map\Report\WDR\Phase2\1HK_Phase2_WDR.aprx

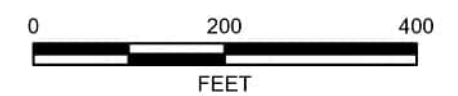


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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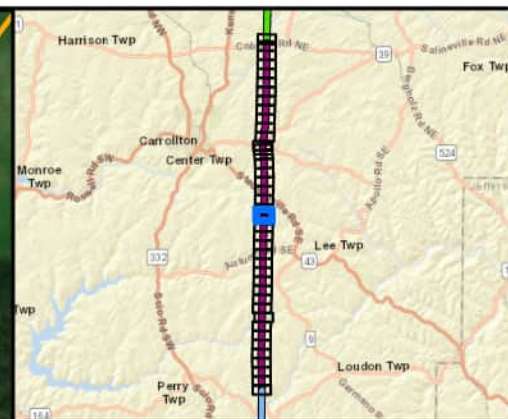
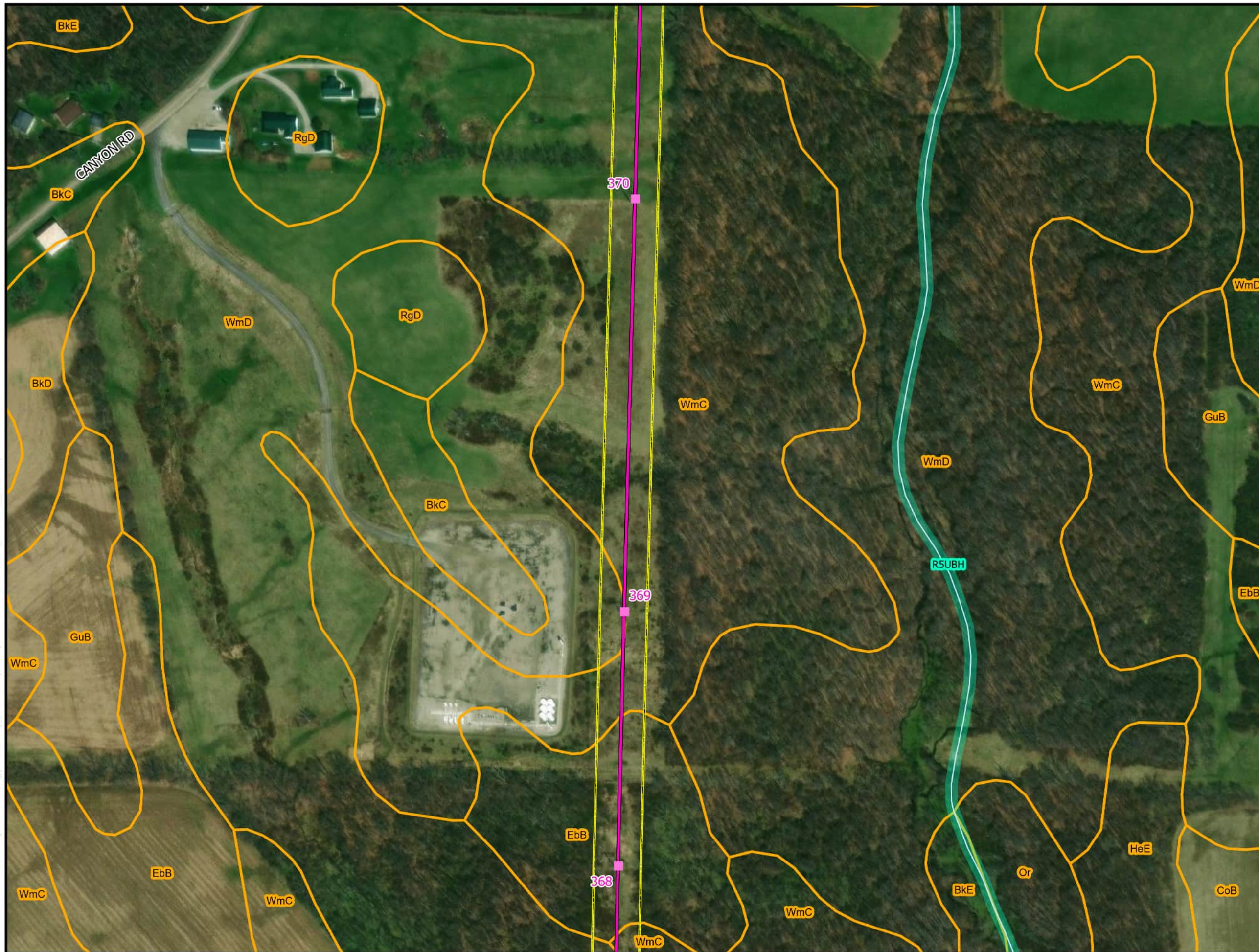
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-21
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024

Jacobs

\\dr1vs01\GIS\Proj\1\FirstEnergy\Holloway_Knox\Map\Report\WDR\Phase2\HK_Phase2_WDR.aprx

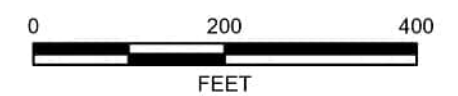


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

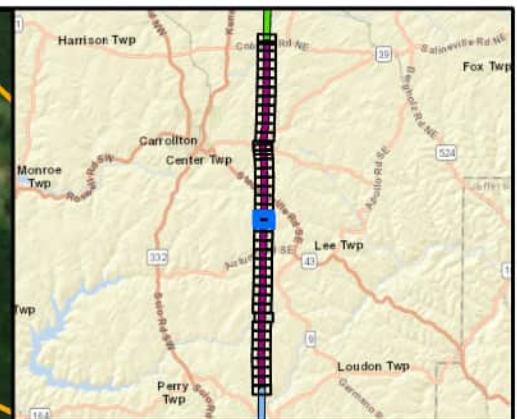
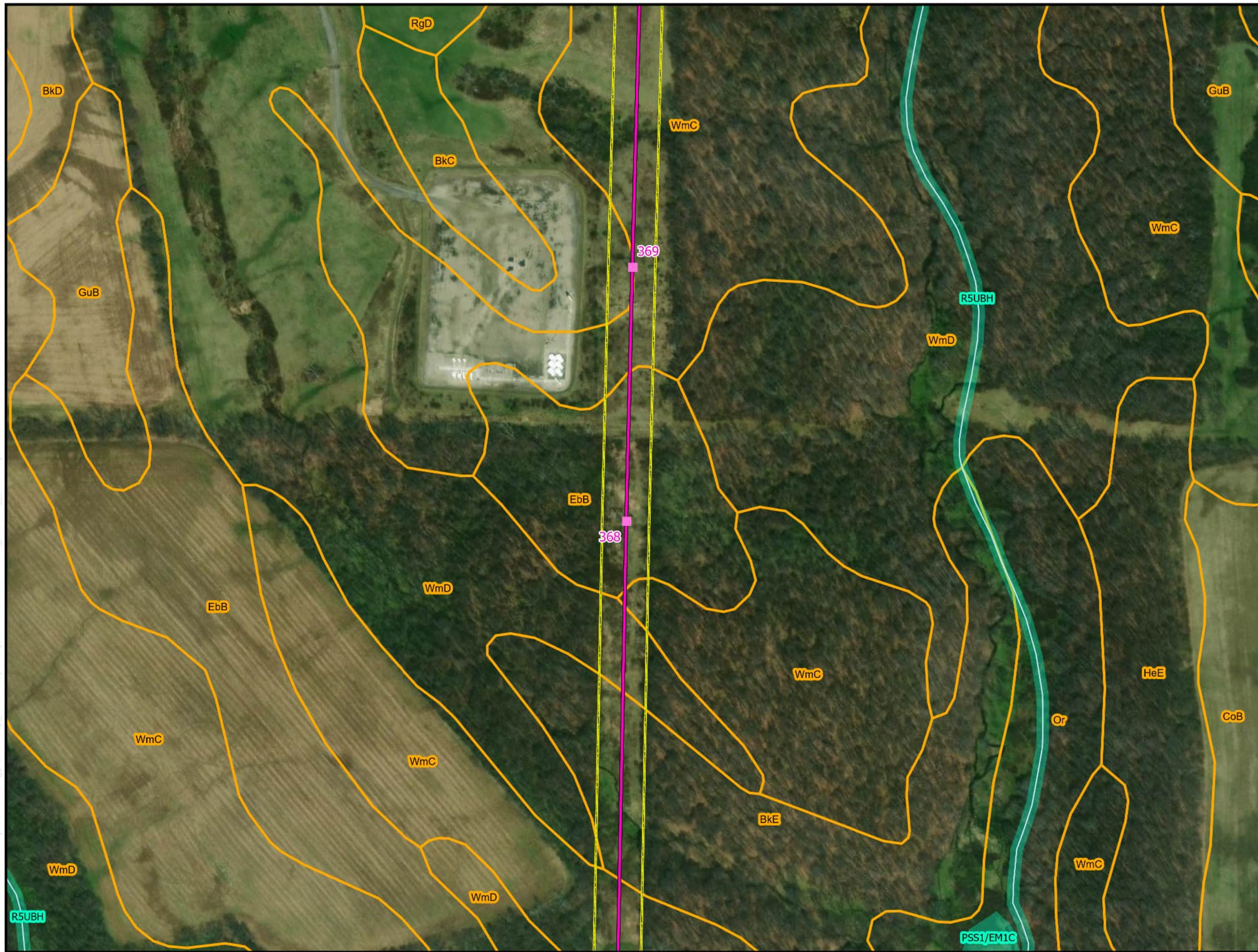


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FIGURE 2-22
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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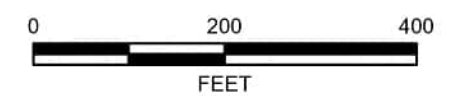


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



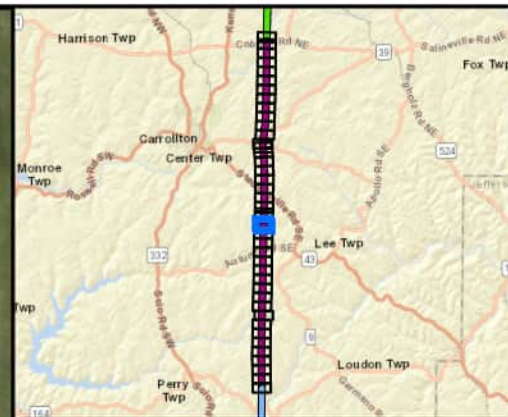
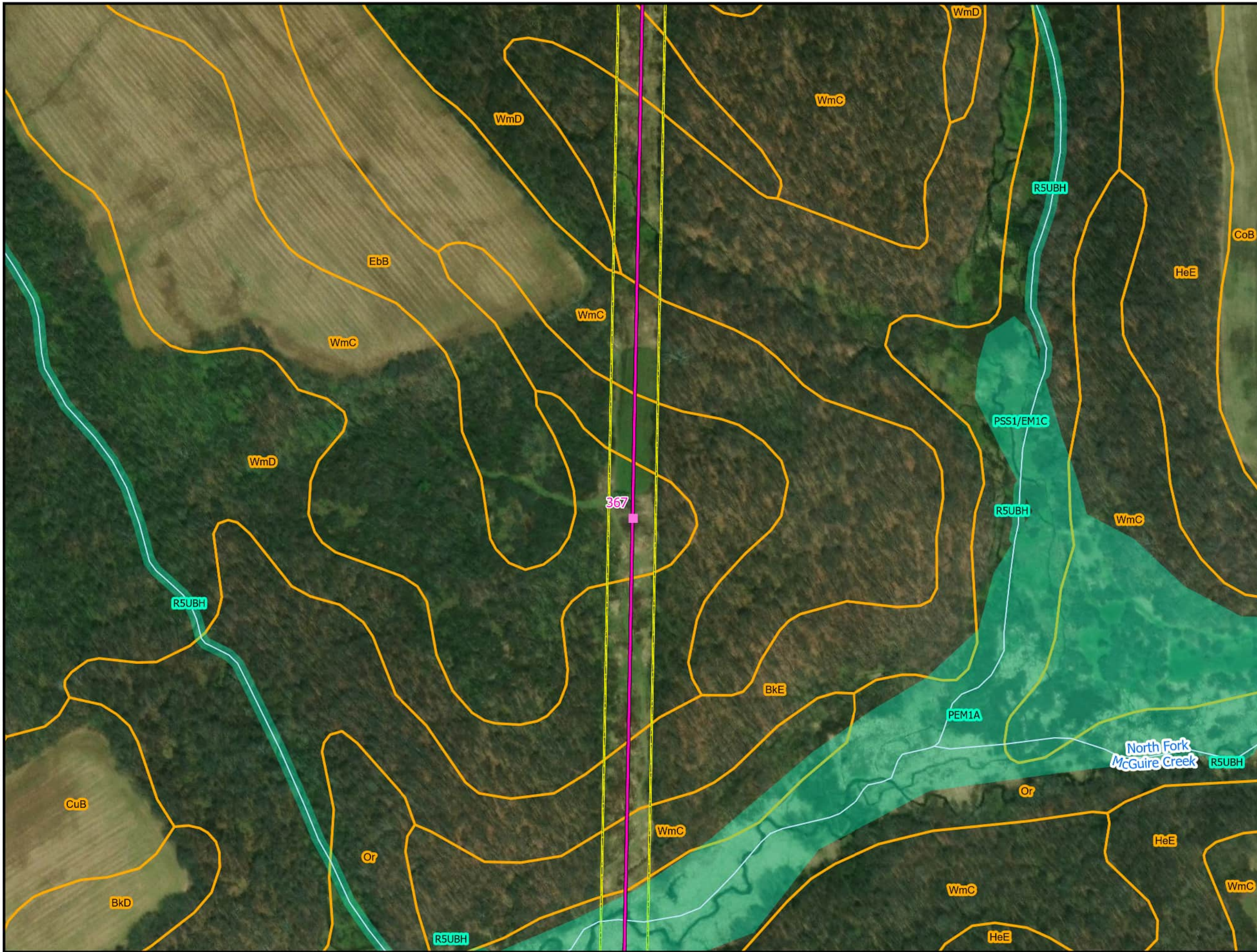
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-23
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024



\\dr1vs011\GIS\Proj\1\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\1HK_Phase2_WDR.aprx

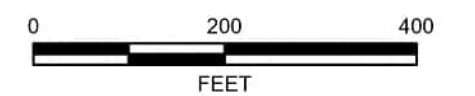


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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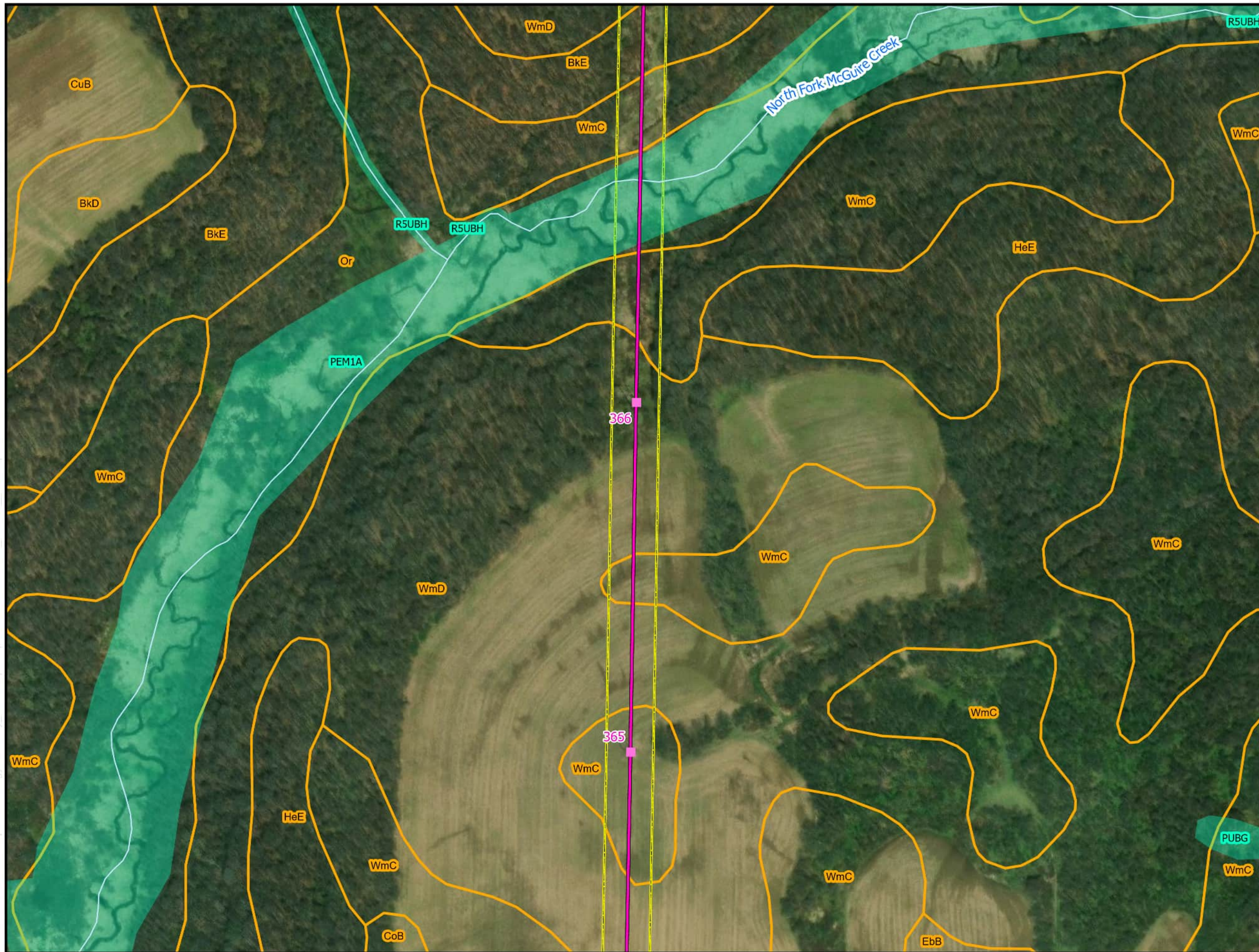


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FIGURE 2-24
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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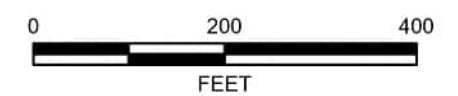


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- ▨ 100 Year Floodplain
- ▭ Soil Map Unit
- ▭ Environmental Survey Boundary



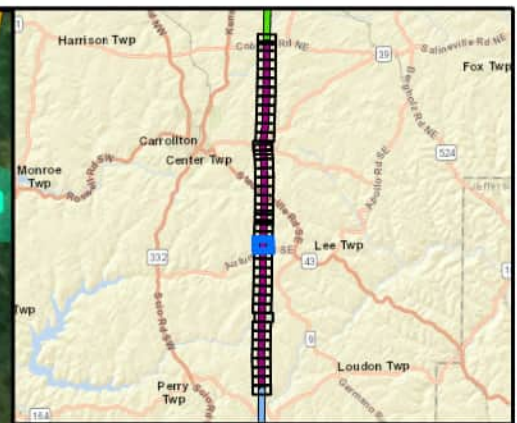
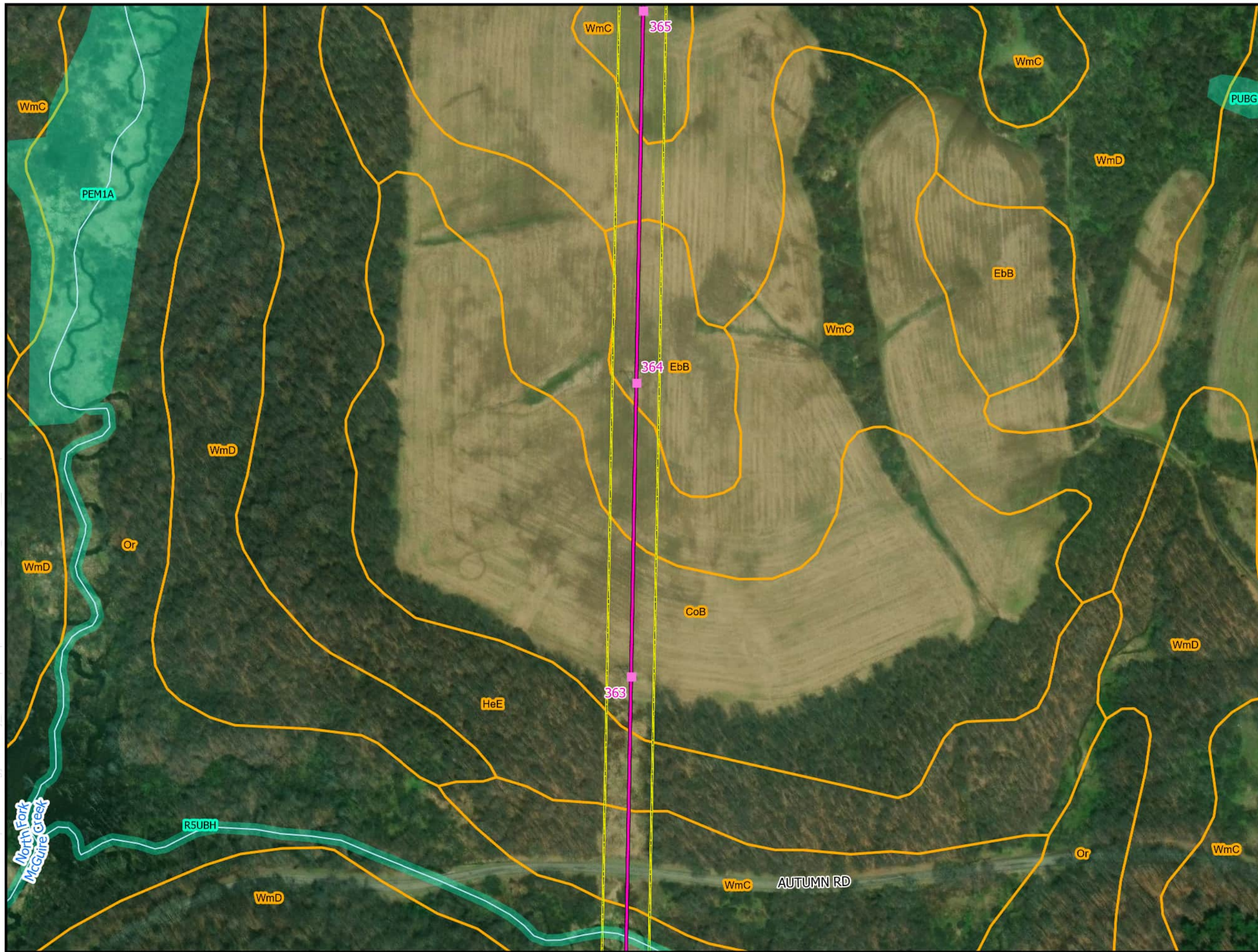
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-25
SOILS, NHD, NWI, FEMA MAP

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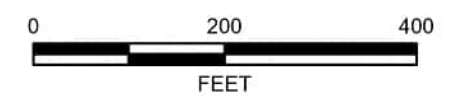


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

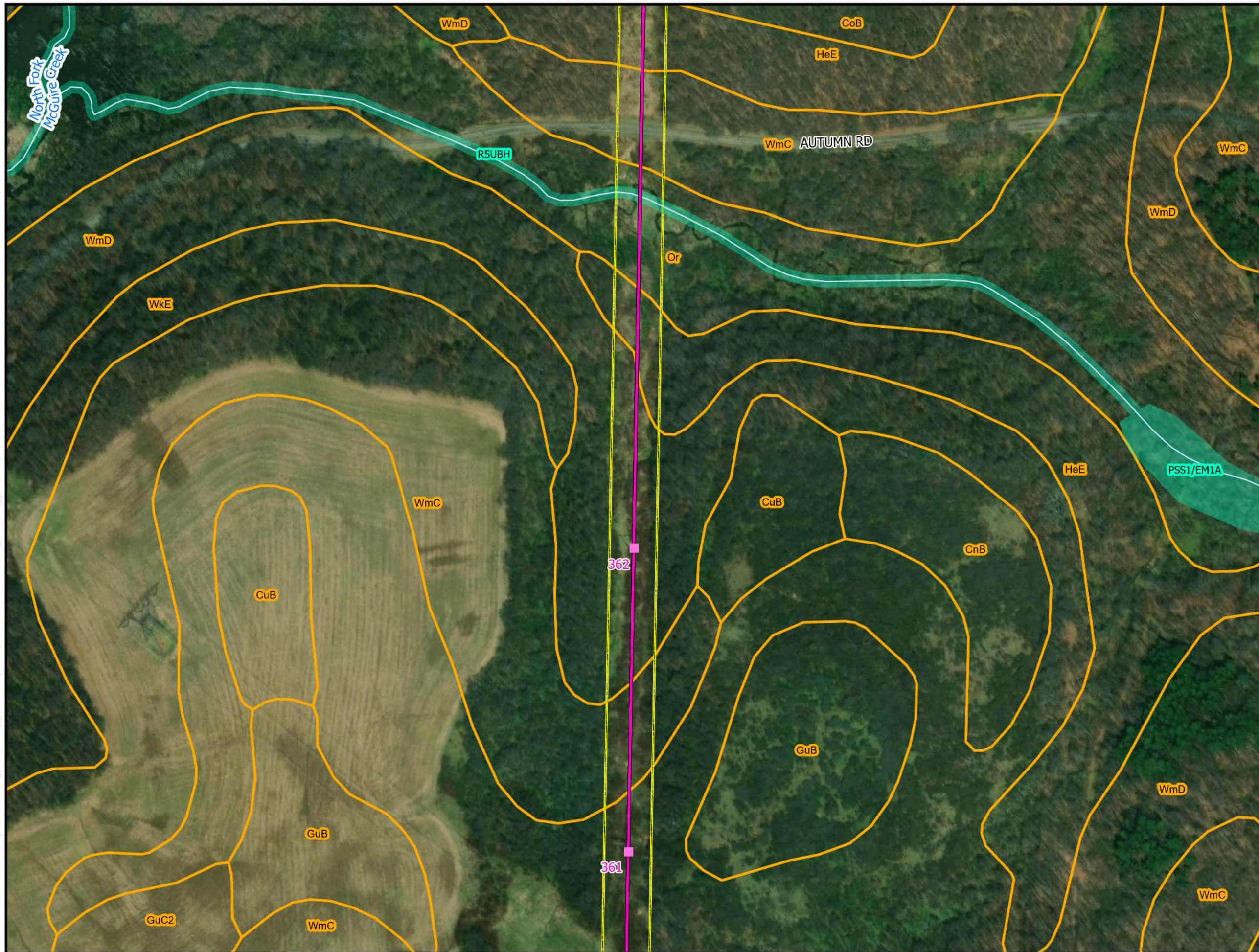


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FIGURE 2-26
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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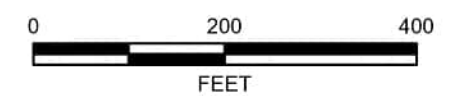


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



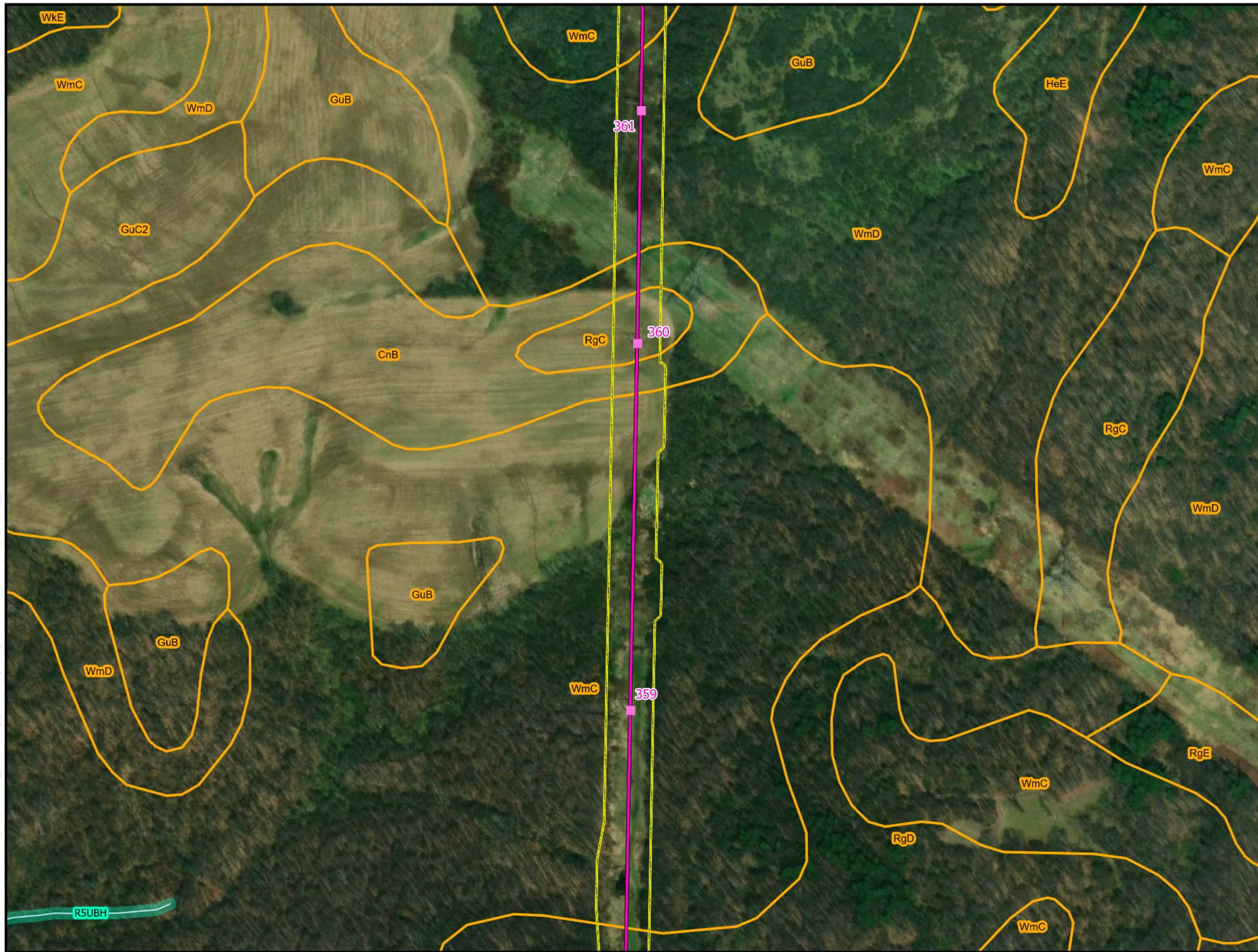
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-27
SOILS, NHD, NWI, FEMA MAP

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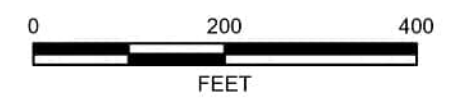


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

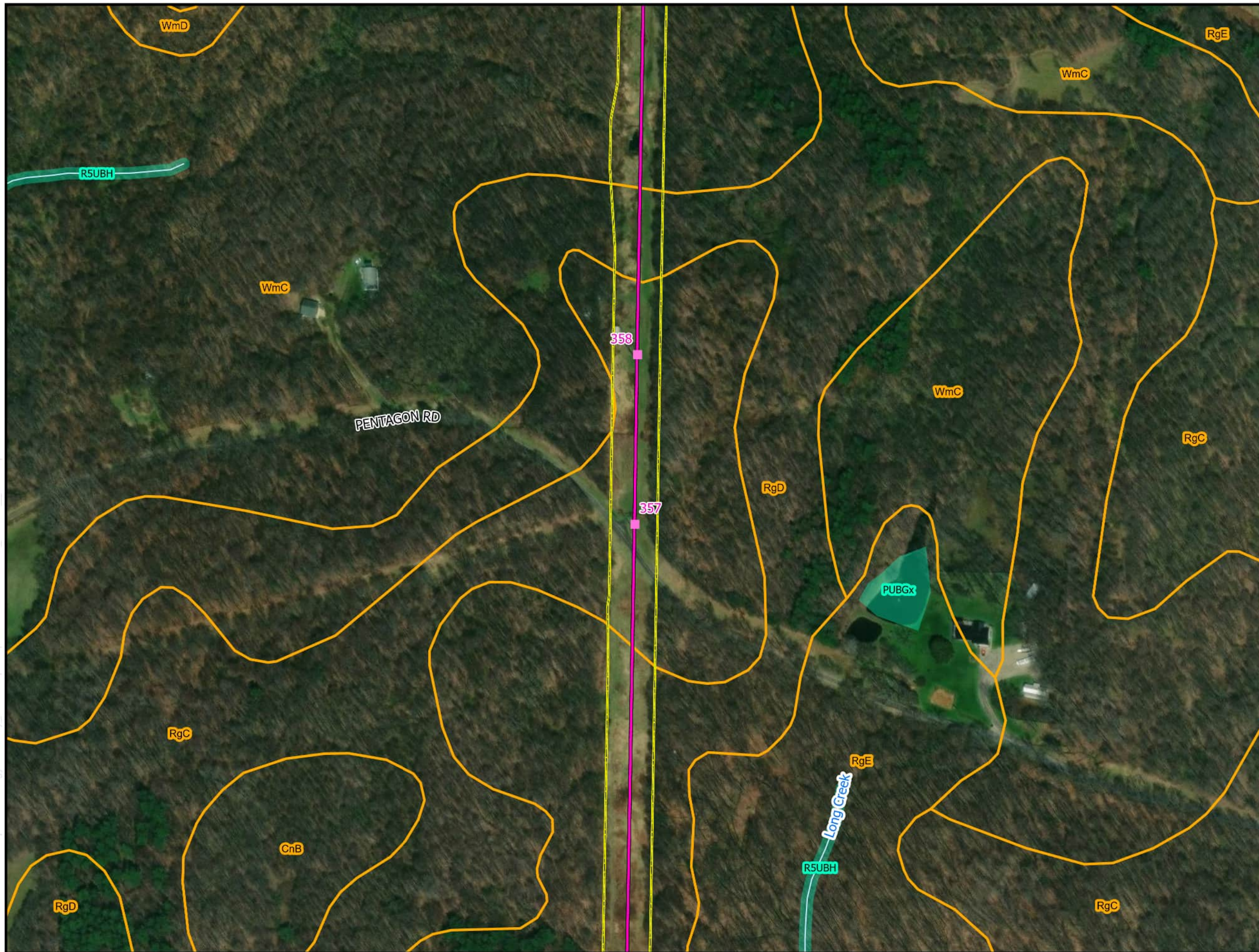


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FIGURE 2-28
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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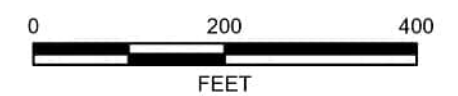


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



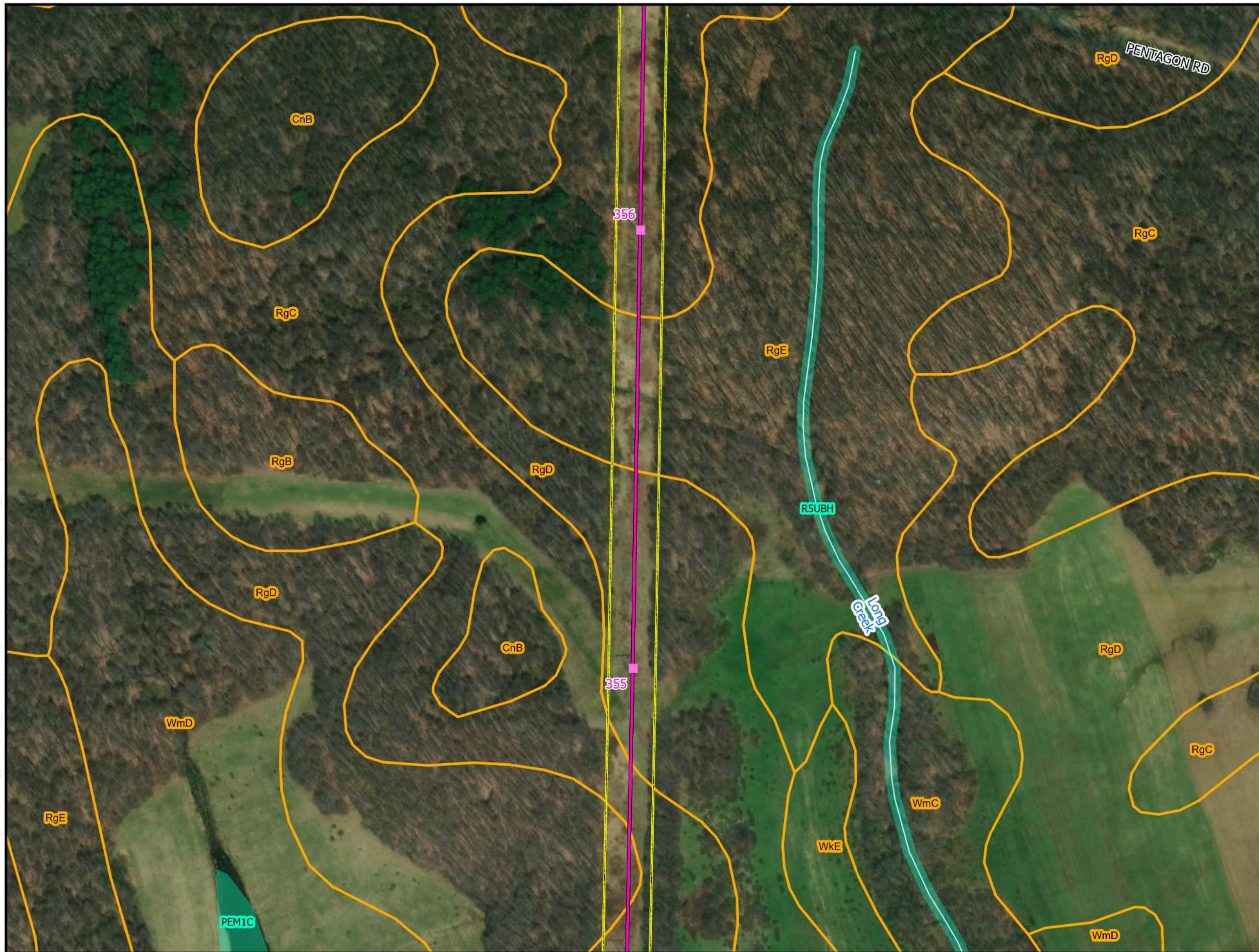
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 2-29
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\1\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\1HK_Phase2_WDR.aprx

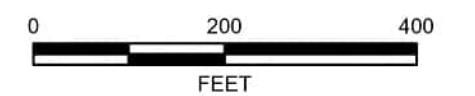


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



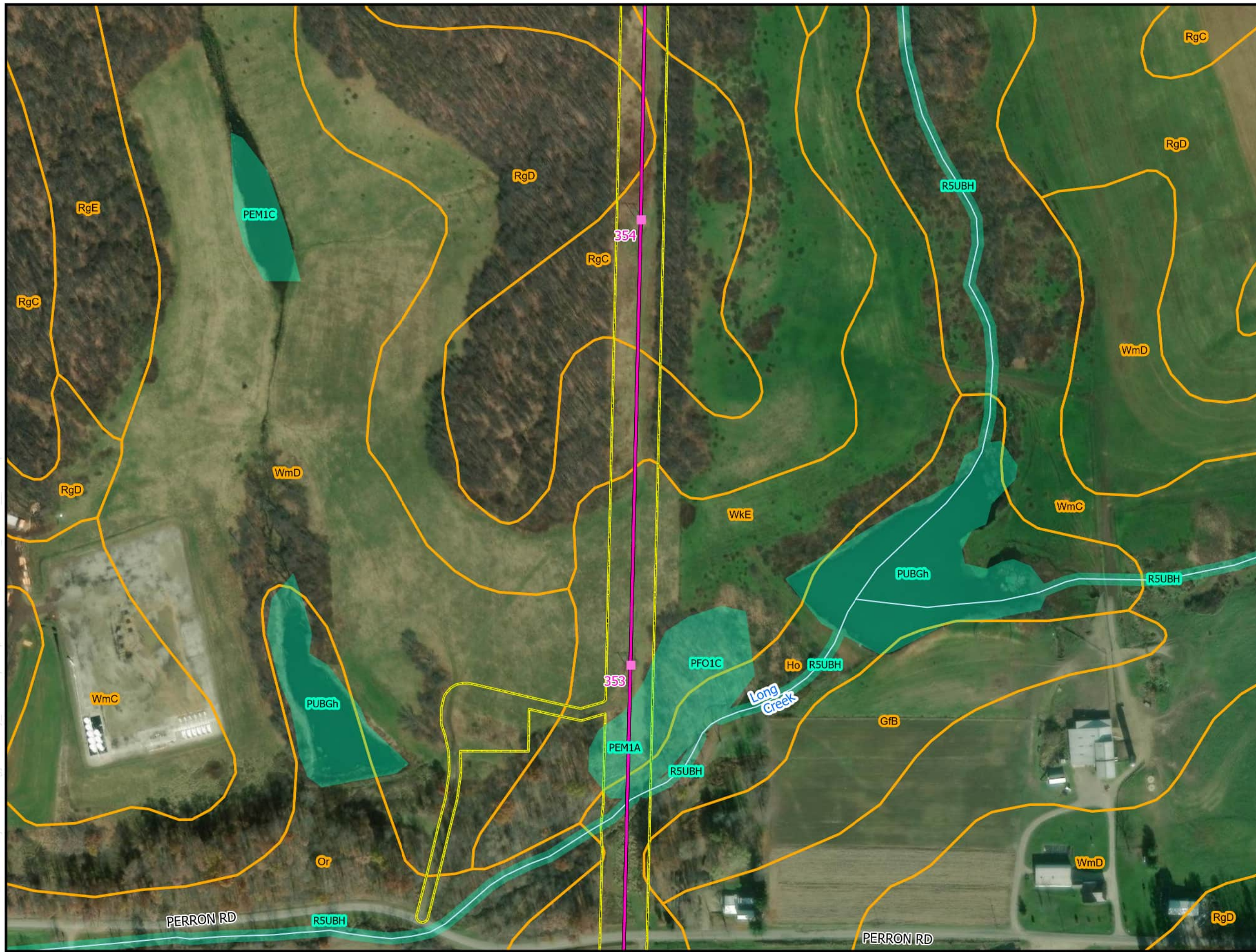
BASE MAP SOURCE:
Esri World Imagery



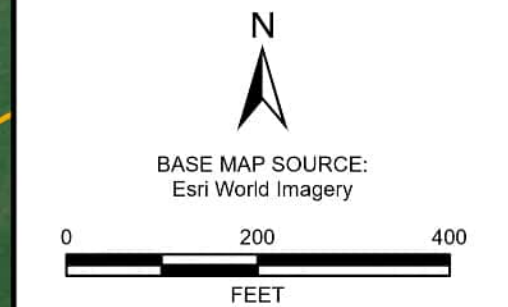
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--	--

FIGURE 2-30
SOILS, NHD, NWI, FEMA MAP

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- LEGEND:**
- Proposed Structure - Direct Embed
 - Washington-Kilgore (Polo Road) - Phase 2
 - NHD Stream
 - NWI Wetland
 - 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary



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138kV Transmission Line
Rebuild Project

FIGURE 2-31
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024

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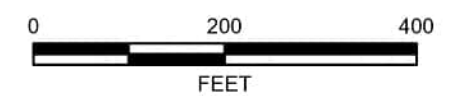


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

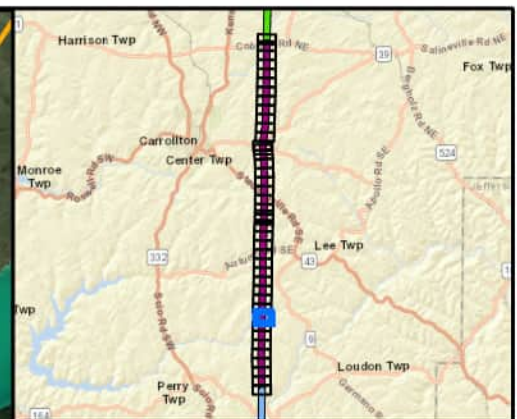


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FIGURE 2-33
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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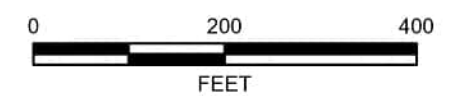


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

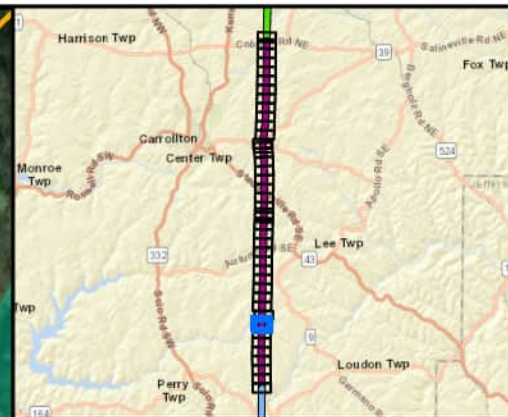
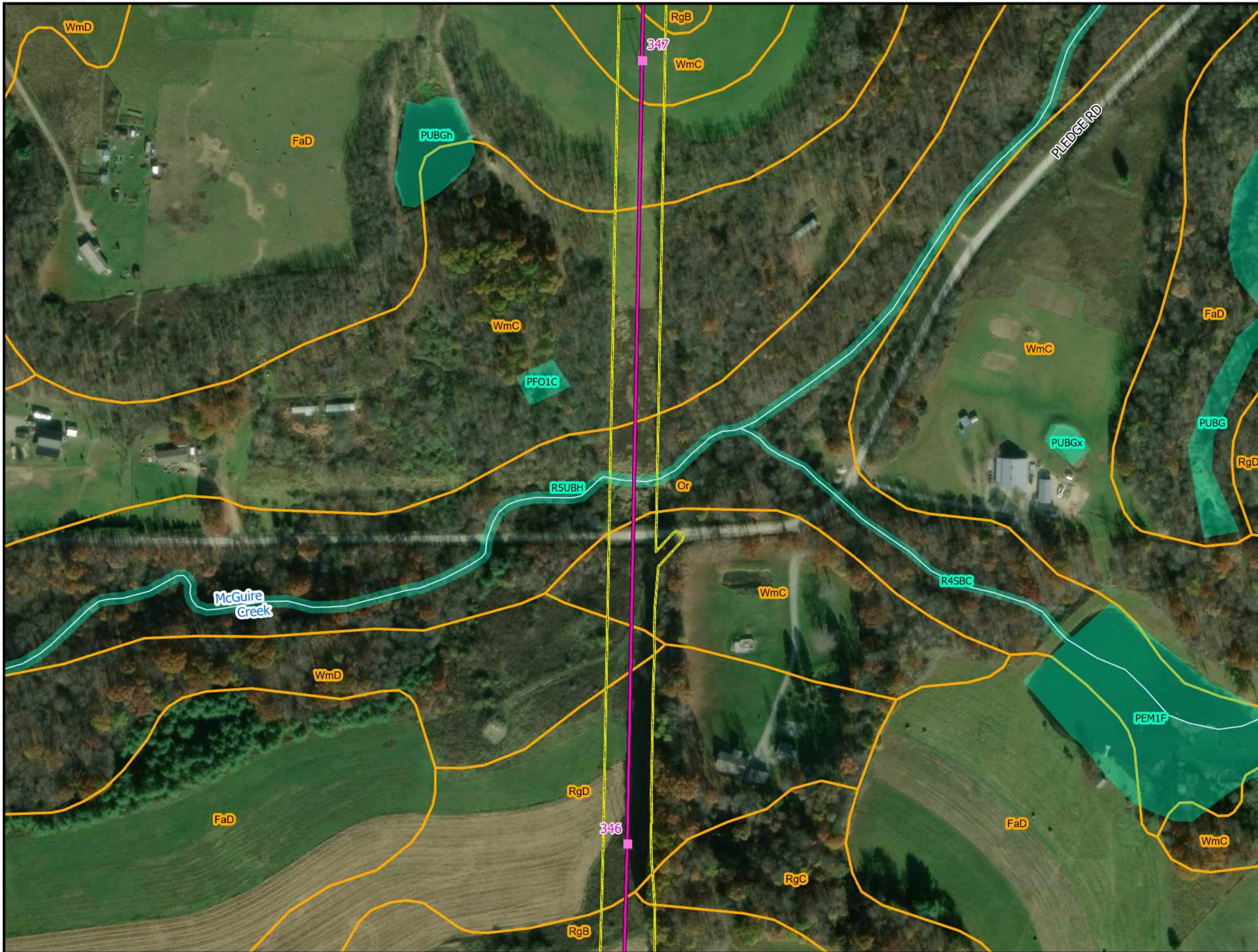


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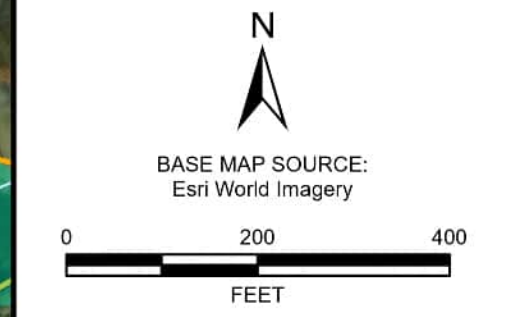
FIGURE 2-34
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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- LEGEND:**
- Proposed Structure - Direct Embed
 - Washington-Kilgore (Polo Road) - Phase 2
 - NHD Stream
 - NWI Wetland
 - 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary



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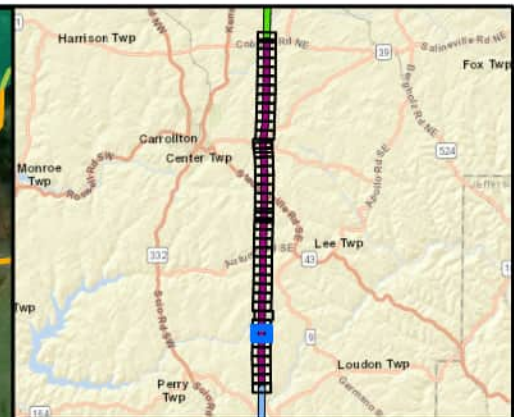
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-35
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024

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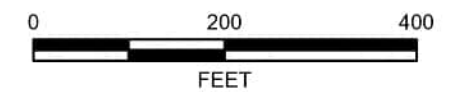


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



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Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-36
SOILS, NHD, NWI, FEMA MAP

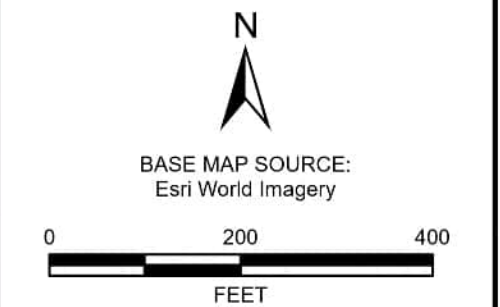
DATE: 6/6/2024

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- LEGEND:**
- Proposed Structure - Direct Embed
 - Washington-Kilgore (Polo Road) - Phase 2
 - NHD Stream
 - NWI Wetland
 - 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary

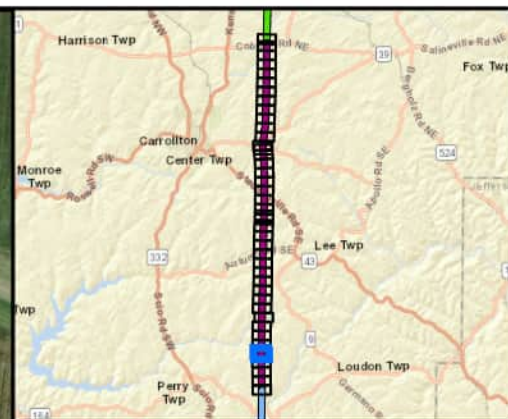


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FIGURE 2-37
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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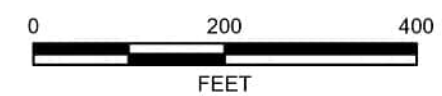


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 2-38
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024



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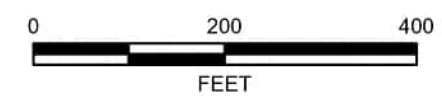


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
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FIGURE 2-39
SOILS, NHD, NWI, FEMA MAP

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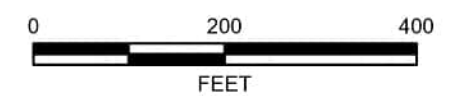


LEGEND:

- Proposed Structure - Direct Embed
- Washington-Kilgore (Polo Road) - Phase 2
- NHD Stream
- NWI Wetland
- 100 Year Floodplain
- Soil Map Unit
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



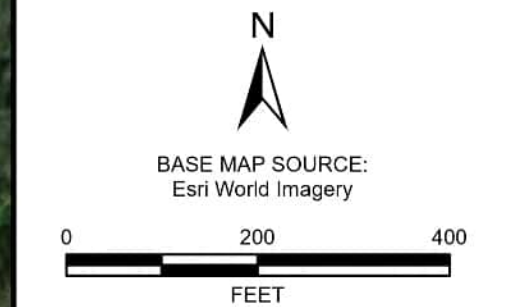
ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 2-41
SOILS, NHD, NWI, FEMA MAP

\\dc1vs01\GIS\Proj\FirstEnergy\Holloway_Knox\Mapst\Report\WDR\Phase2\1HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Washington-Kilgore (Polo Road) - Phase 2
 - Polo Road-Buckeye Power - Phase 3
 - NHD Stream
 - NWI Wetland
 - 100 Year Floodplain
 - Soil Map Unit
 - Environmental Survey Boundary

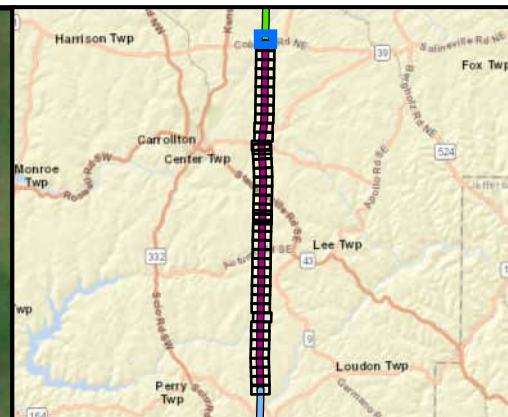
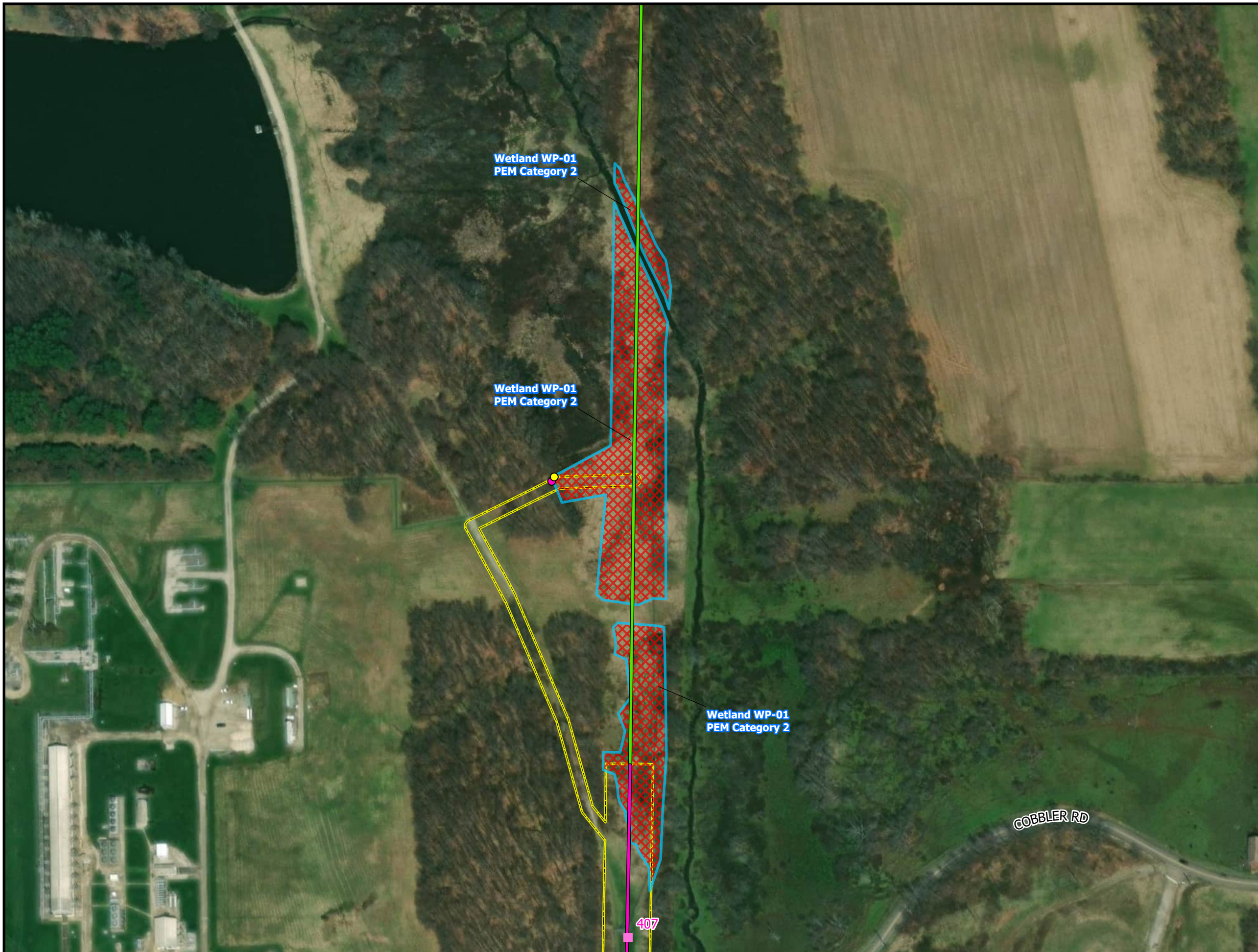


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FIGURE 2-42
SOILS, NHD, NWI, FEMA MAP

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Knox-Washington - Phase 1
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

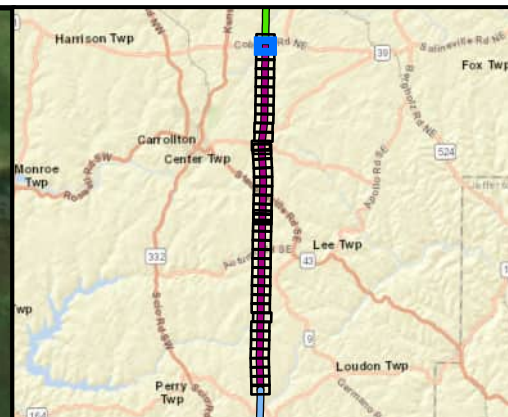
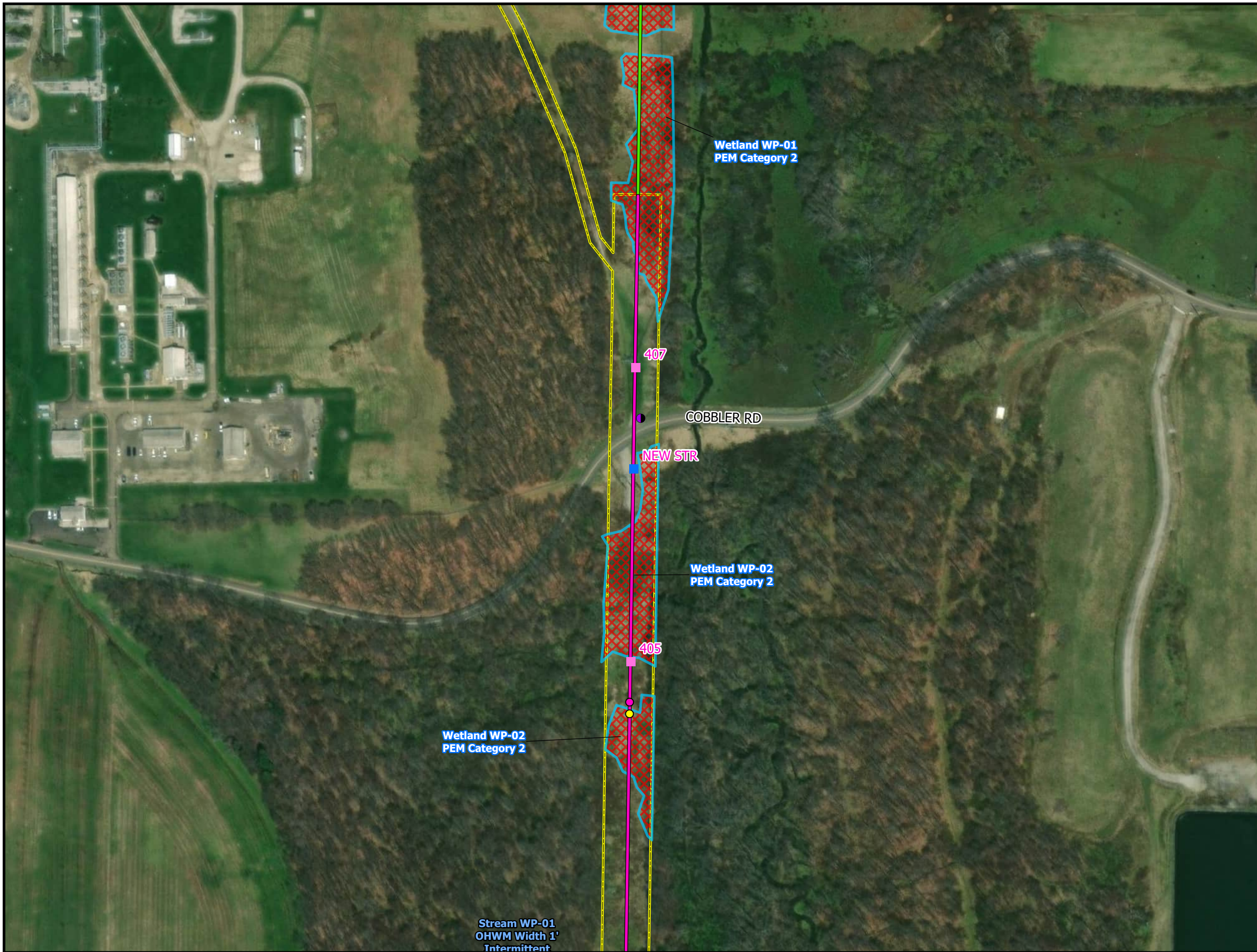
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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**FIGURE 3-1
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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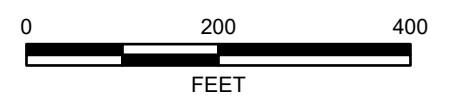
\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Proposed Structure - Other
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Knox-Washington - Phase 1
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary



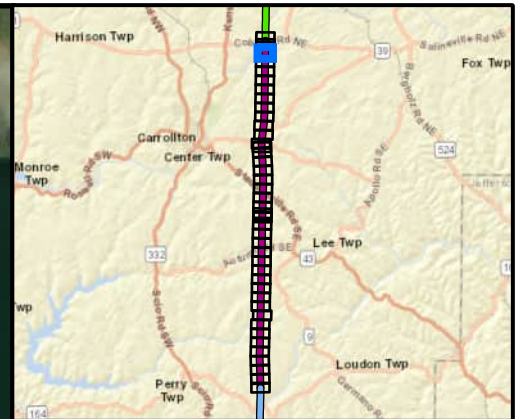
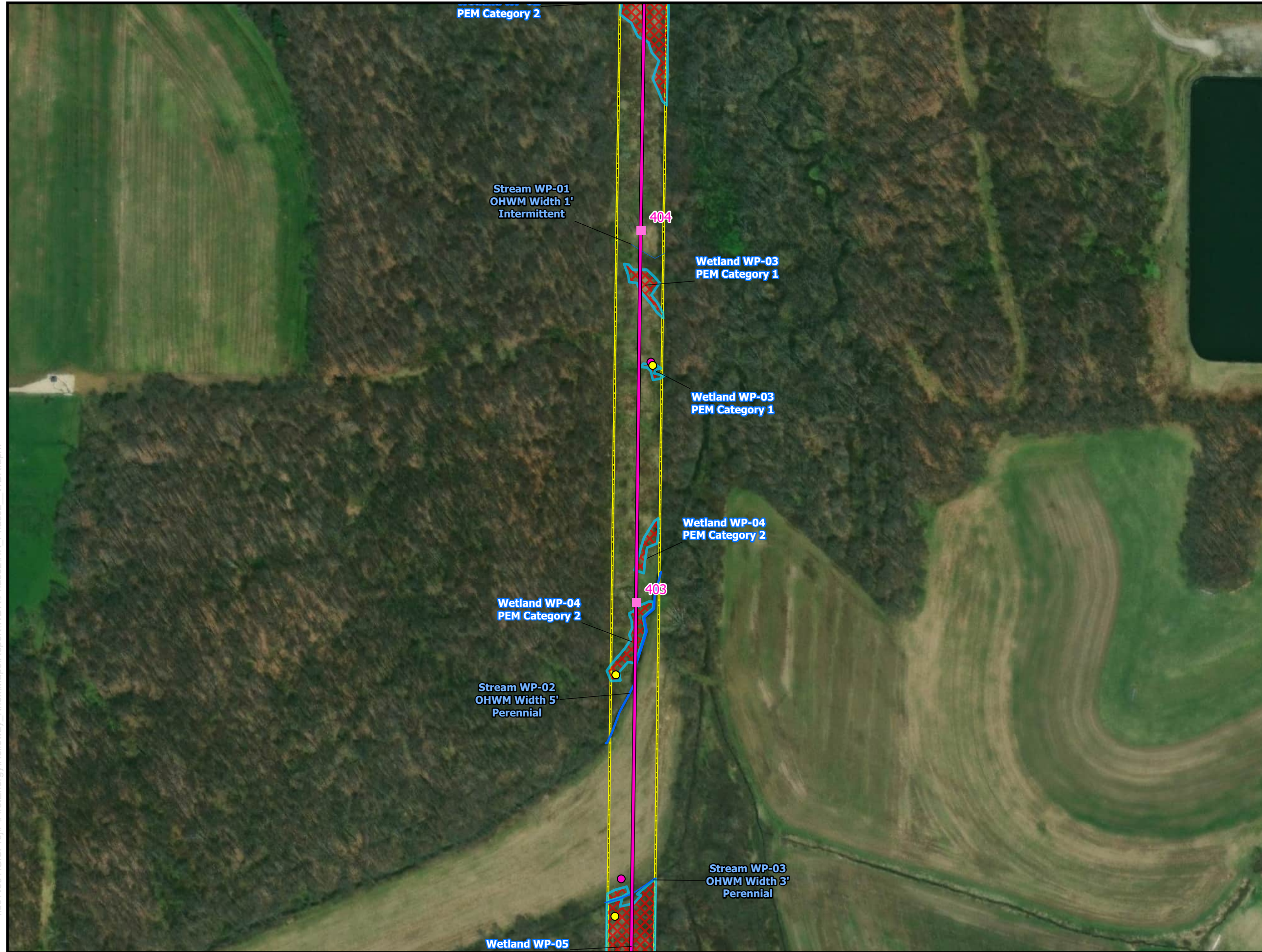
BASE MAP SOURCE:
Esri World Imagery



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--	--

**FIGURE 3-2
DELINEATED FEATURES MAP**

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

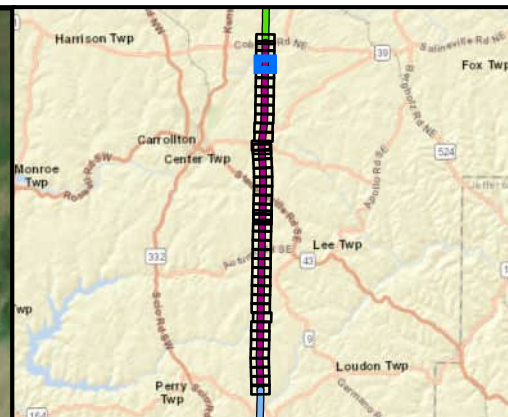
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FEET

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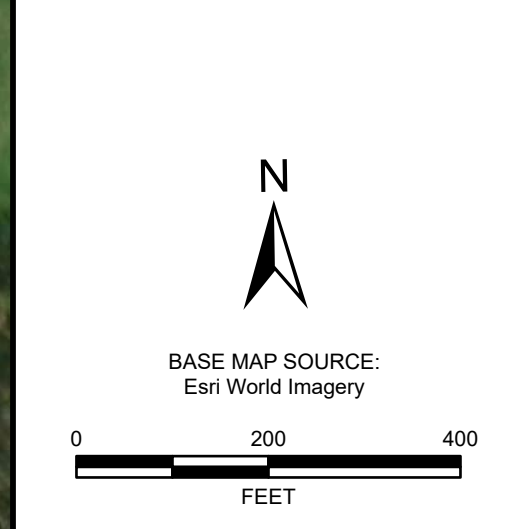
**FIGURE 3-3
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary



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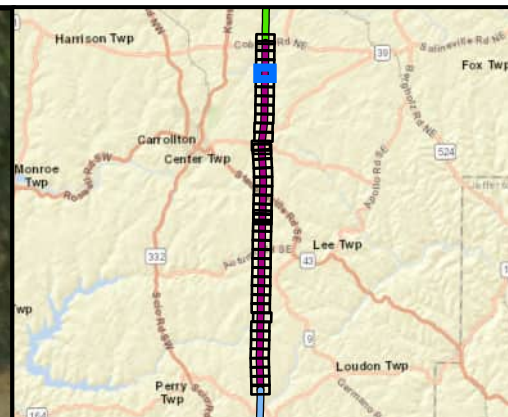
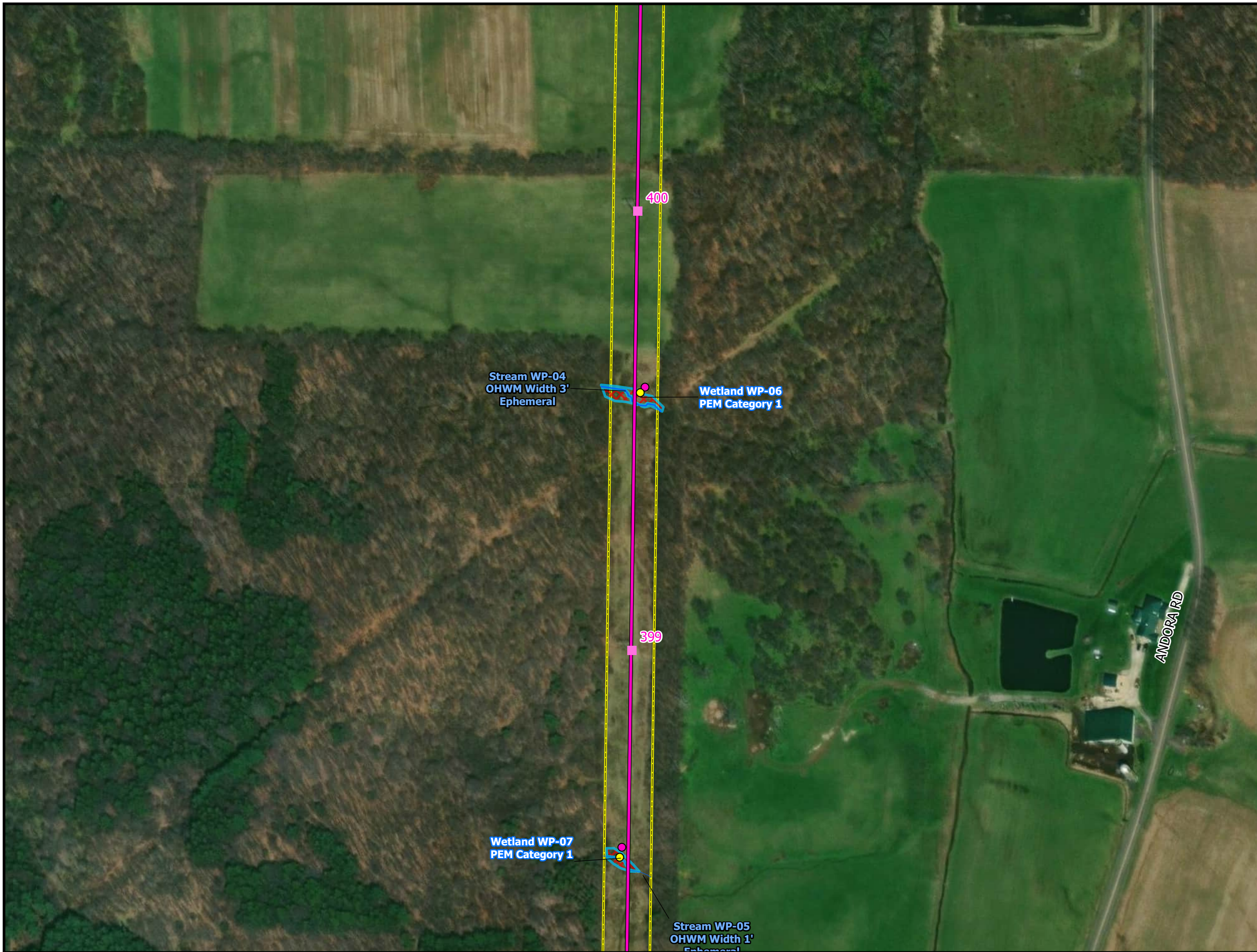
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

**FIGURE 3-4
DELINEATED FEATURES MAP**

DATE: 6/6/2024

Jacobs

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

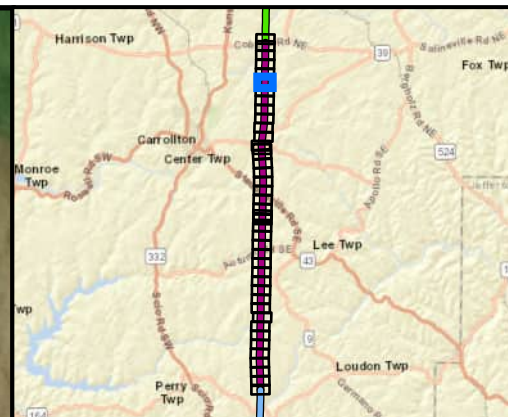
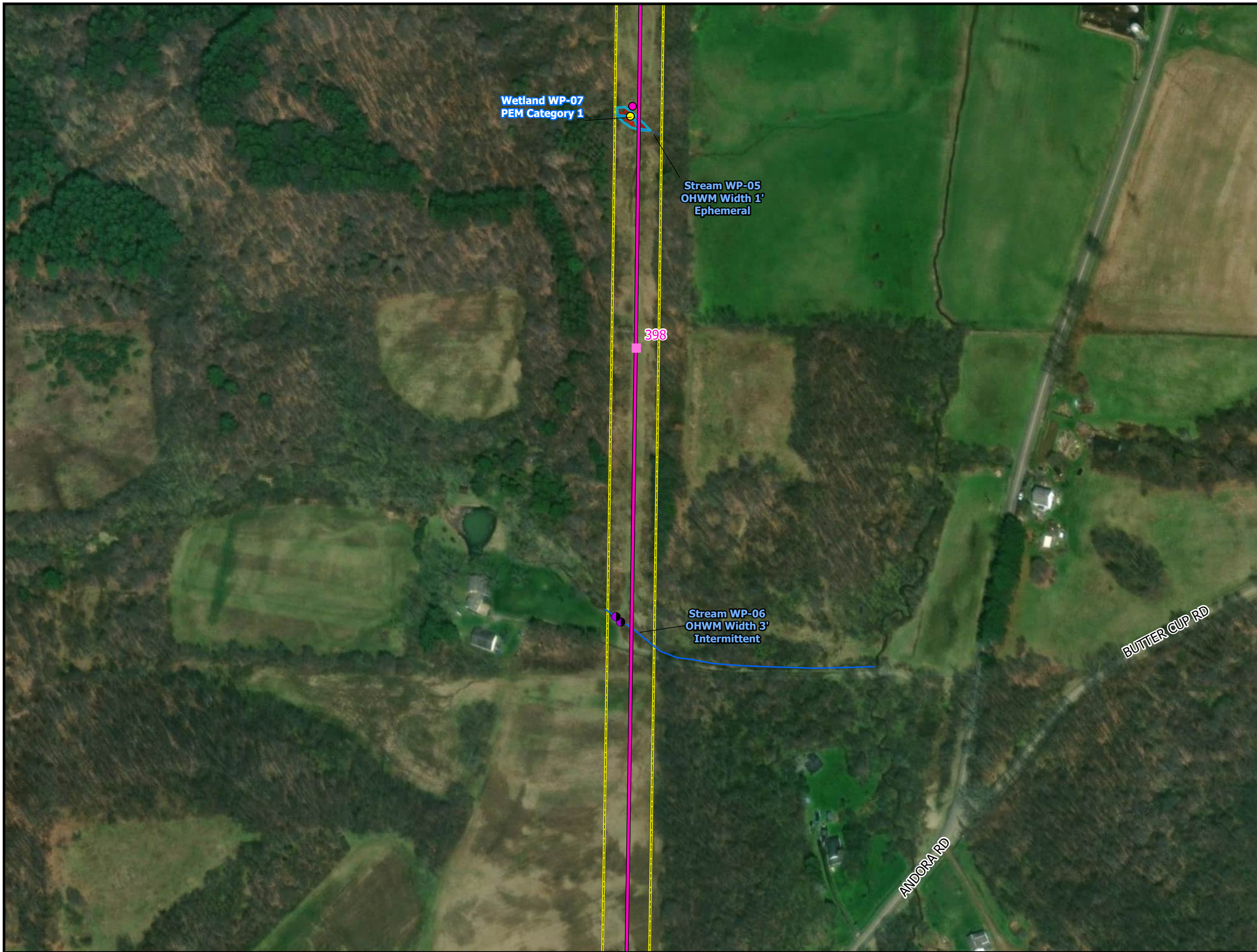
0 200 400
FEET

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**FIGURE 3-5
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

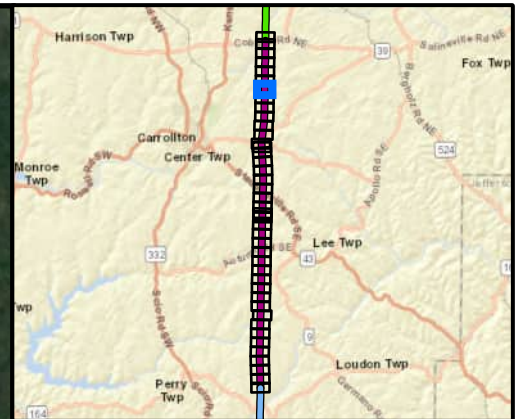
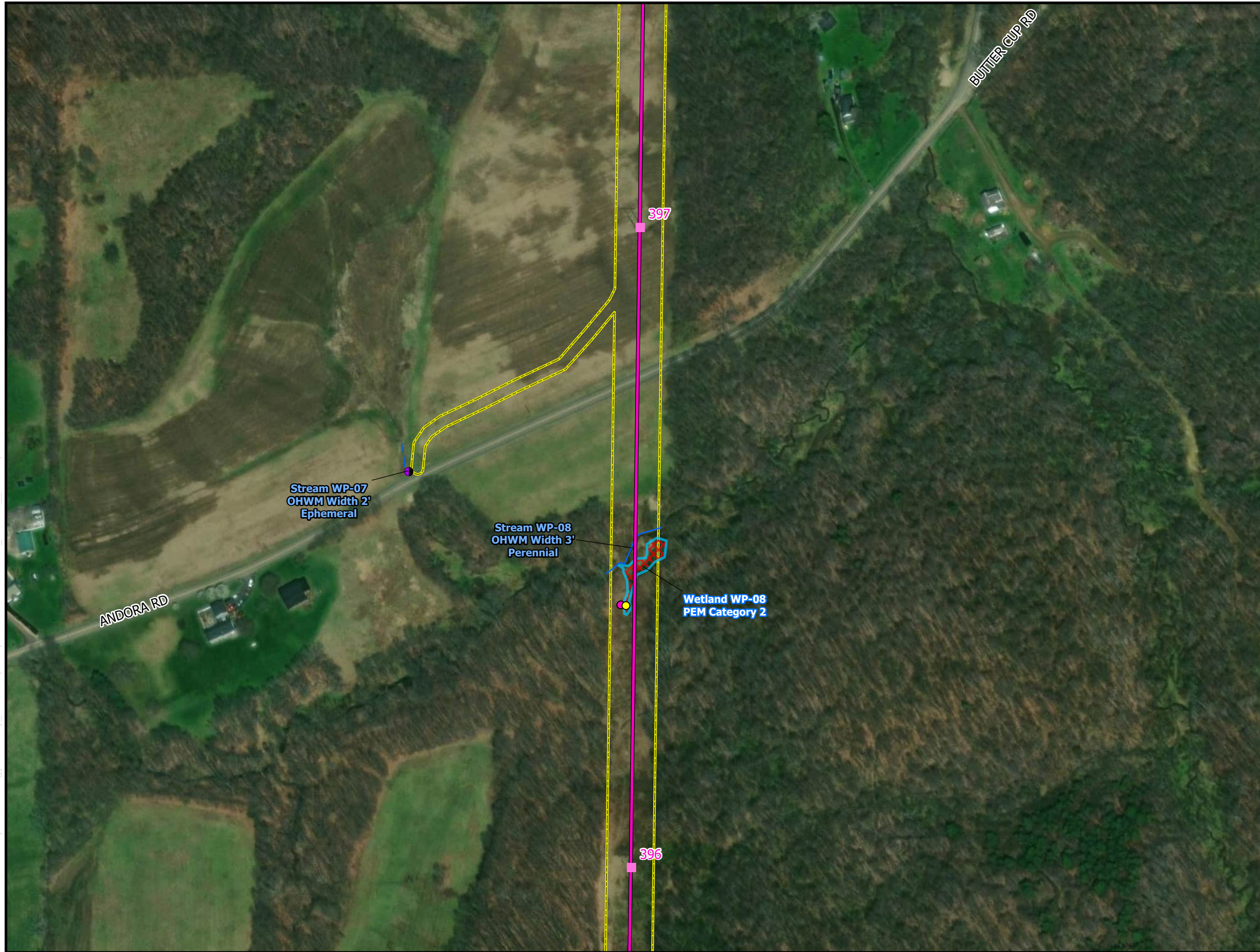
0 200 400
FEET

<p style="font-size: 8px; margin: 0;">American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</p>	<p style="font-size: 8px; margin: 0;">Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project</p>
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FIGURE 3-6
DELINEATED FEATURES MAP

DATE: 6/6/2024	
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

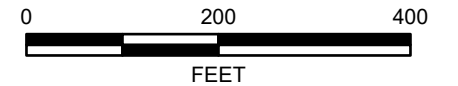


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- ▨ Delineated PEM Wetland
- ▭ Environmental Survey Boundary



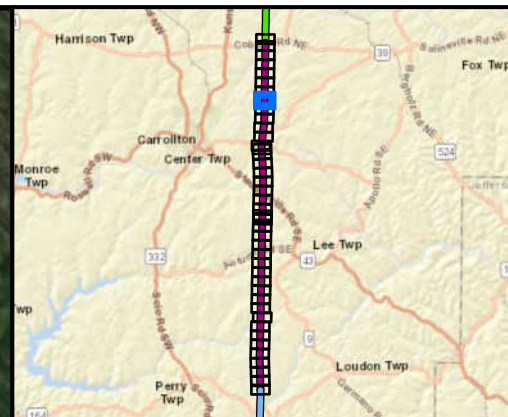
BASE MAP SOURCE:
Esri World Imagery



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FIGURE 3-7
DELINEATED FEATURES MAP

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

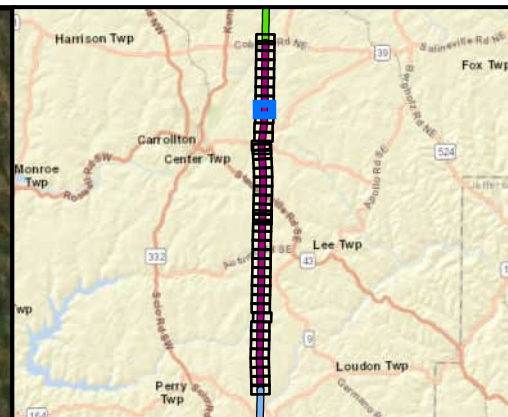
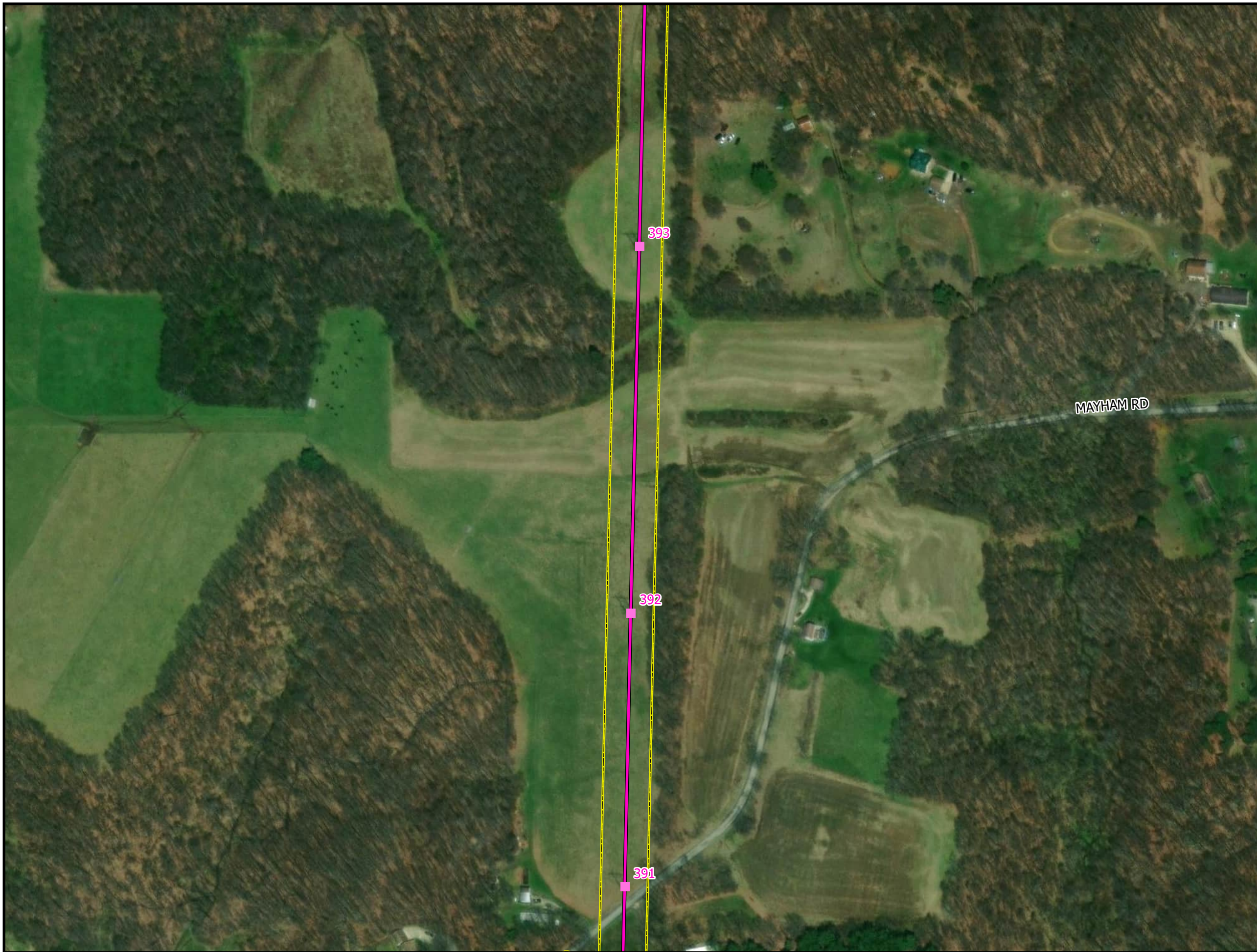
0 200 400
FEET

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**FIGURE 3-8
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

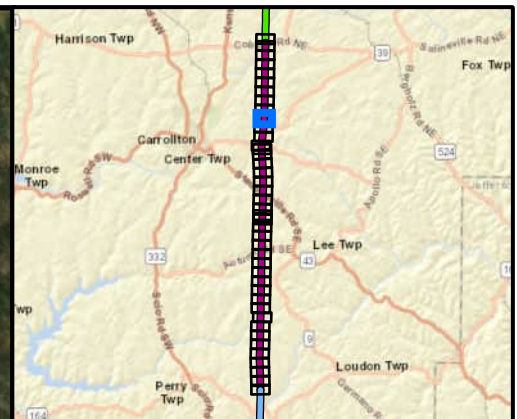
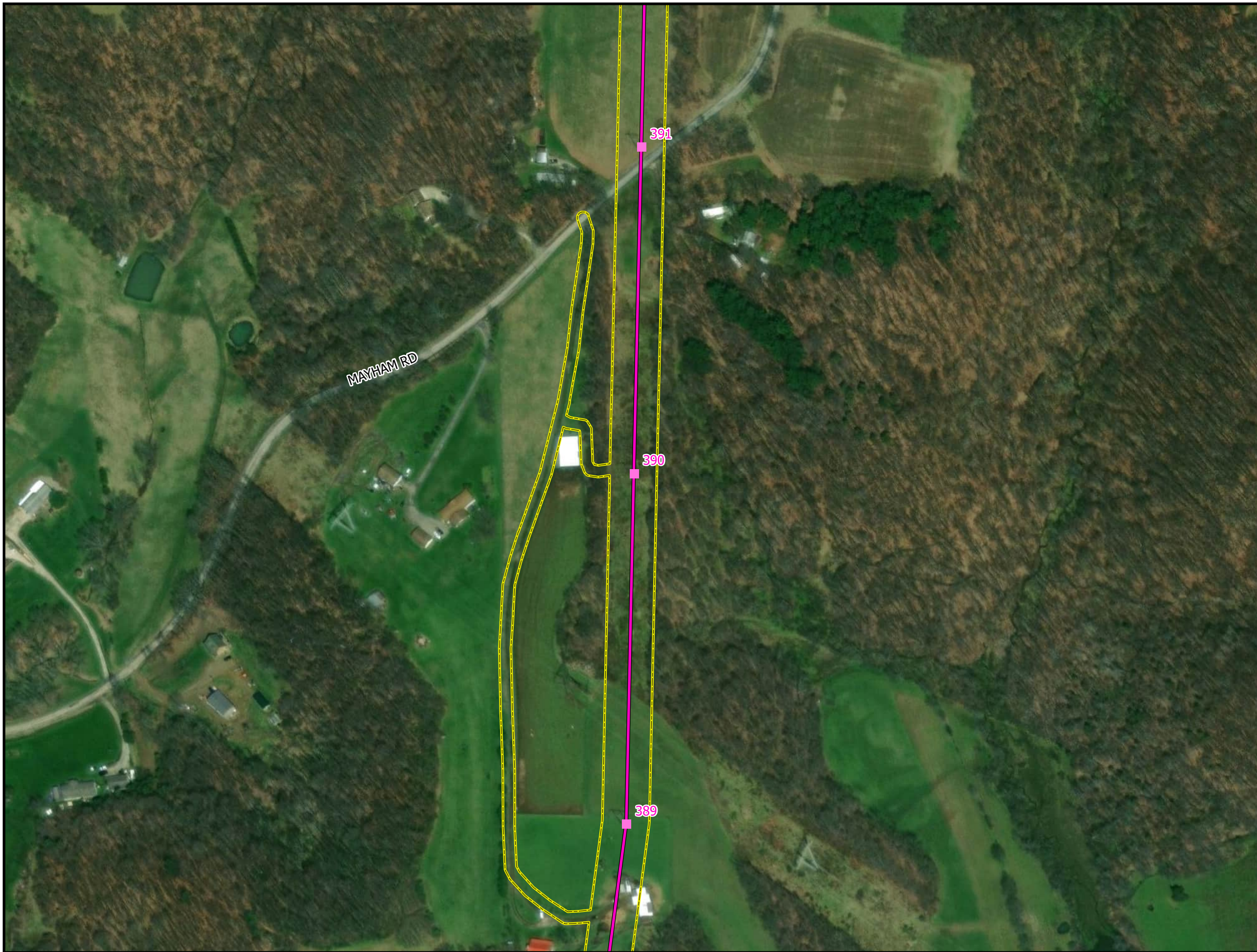
0 200 400
FEET

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FIGURE 3-9
DELINEATED FEATURES MAP

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

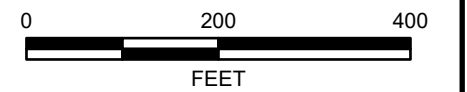


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



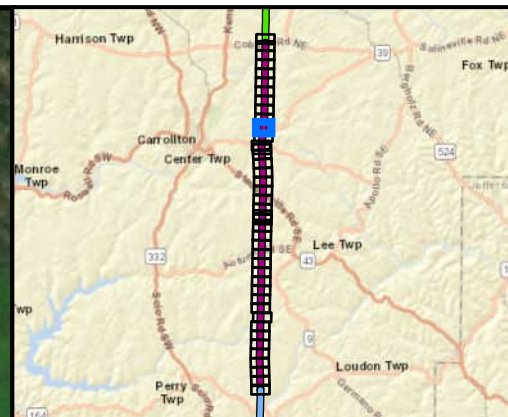
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 3-10
DELINEATED FEATURES MAP

DATE: 6/6/2024



\\dc1vs01\GIS\Proj\GIS\Proj\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

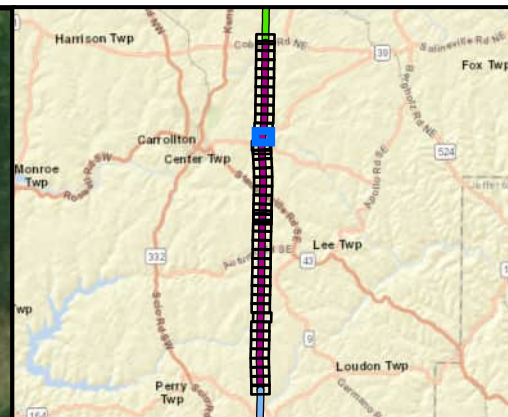
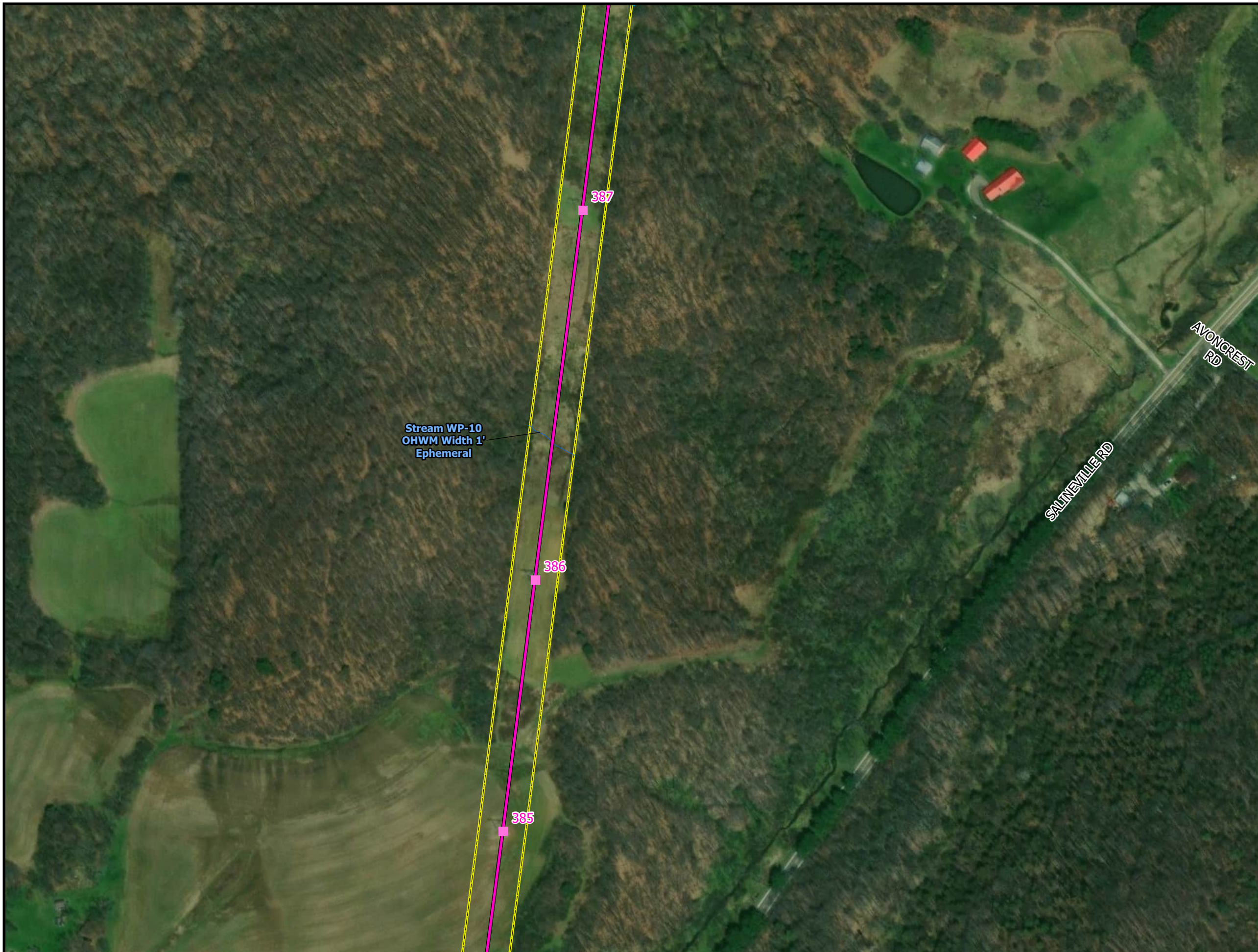
0 200 400
FEET

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**FIGURE 3-11
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\1\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

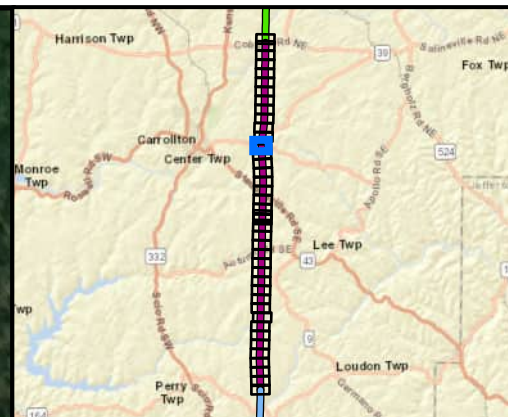
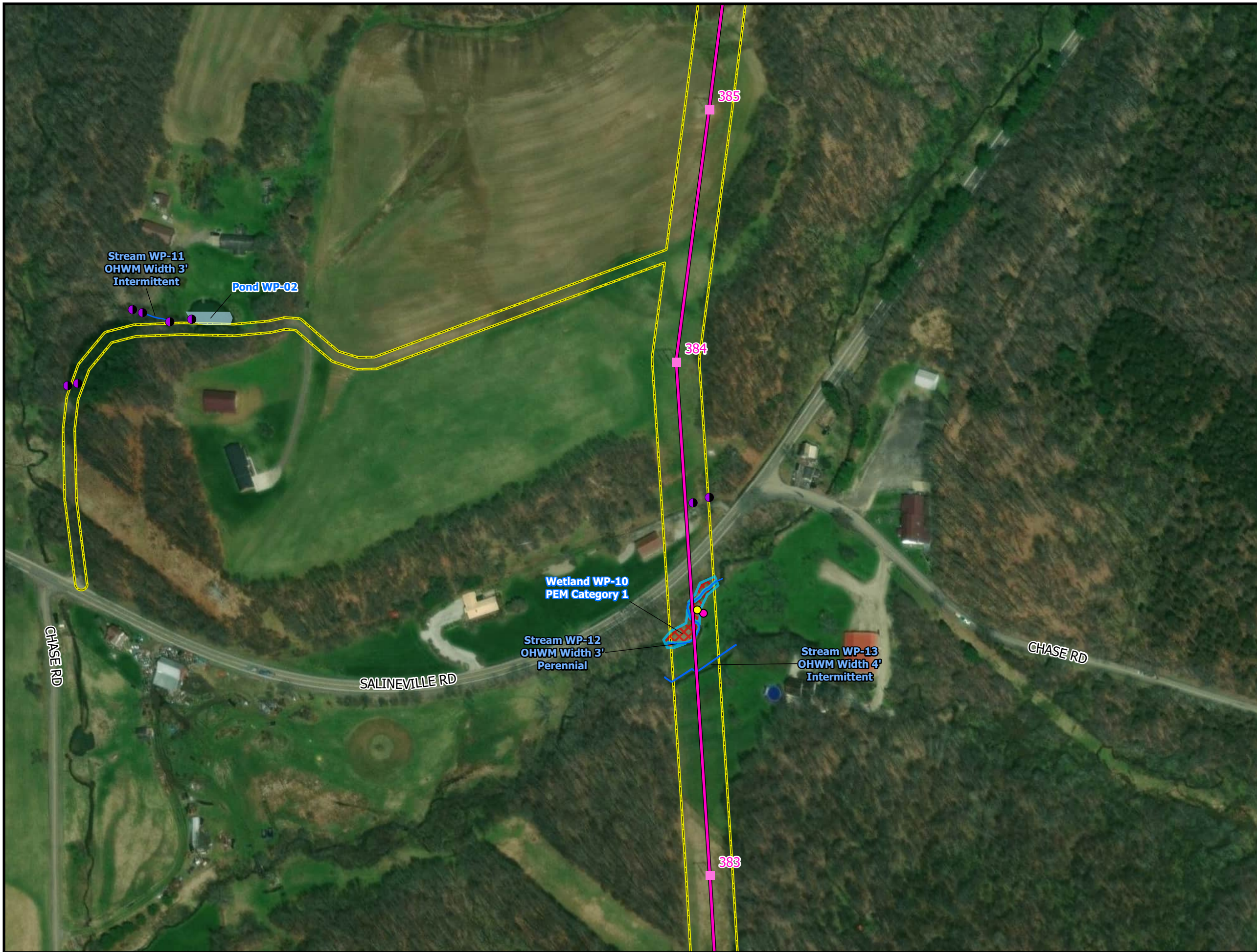
0 200 400
FEET

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**FIGURE 3-12
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

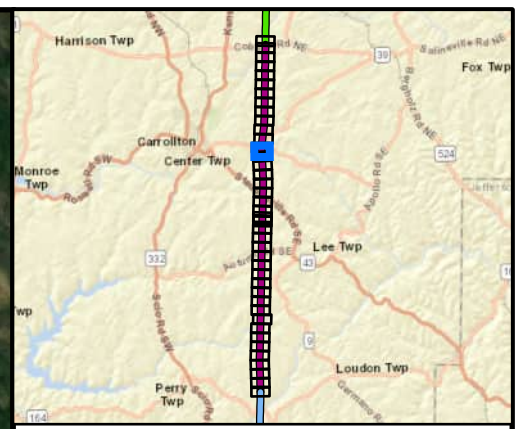
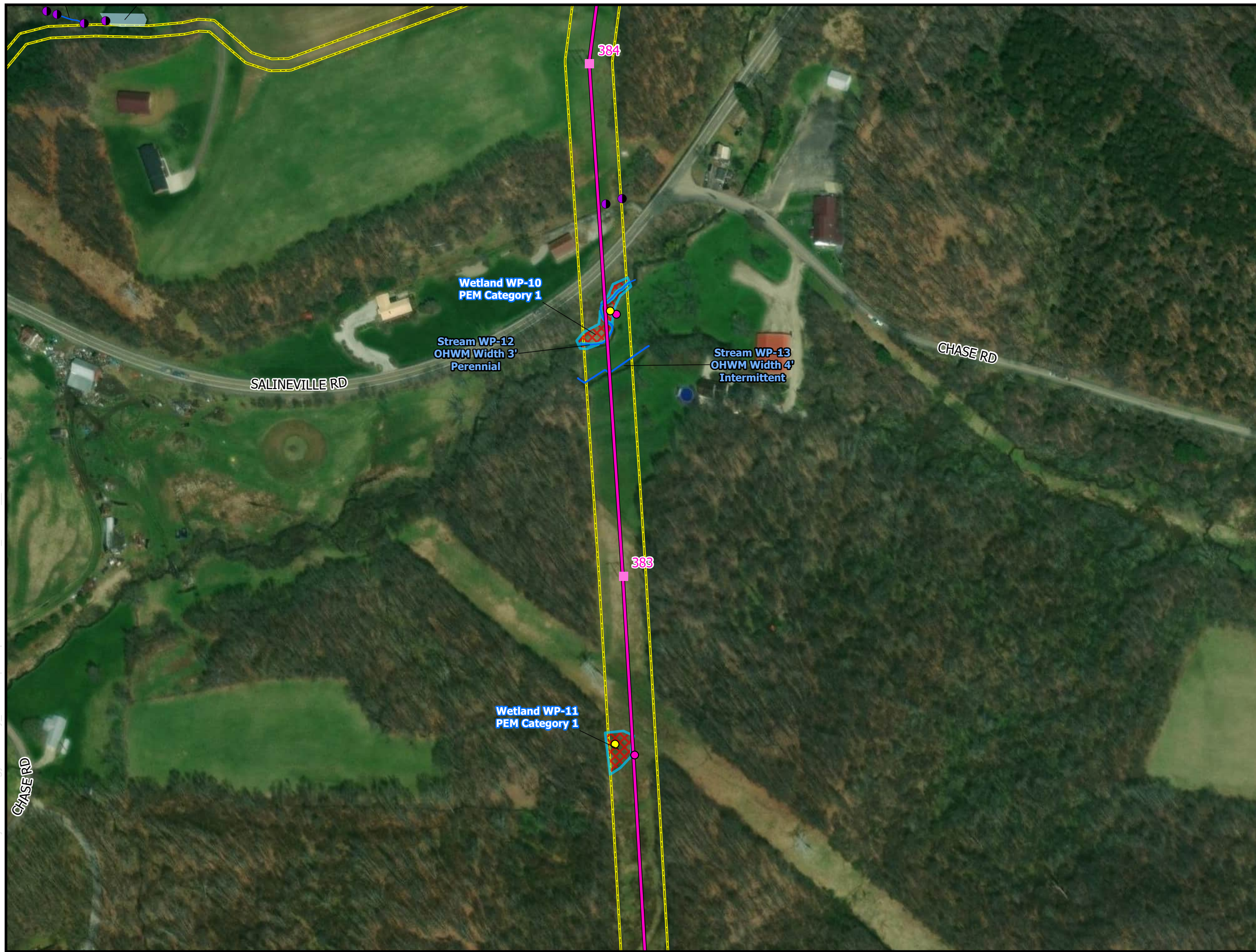
BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

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--	--

**FIGURE 3-13
DELINEATED FEATURES MAP**

\\dc:1vs01\GIS\Proj\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- ▭ Delineated Pond
- ▭ Delineated PEM Wetland
- ▭ Environmental Survey Boundary

N

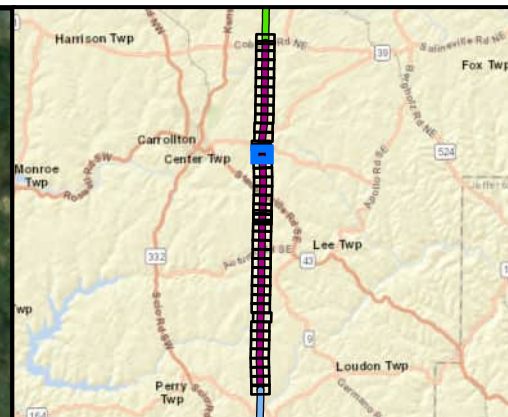
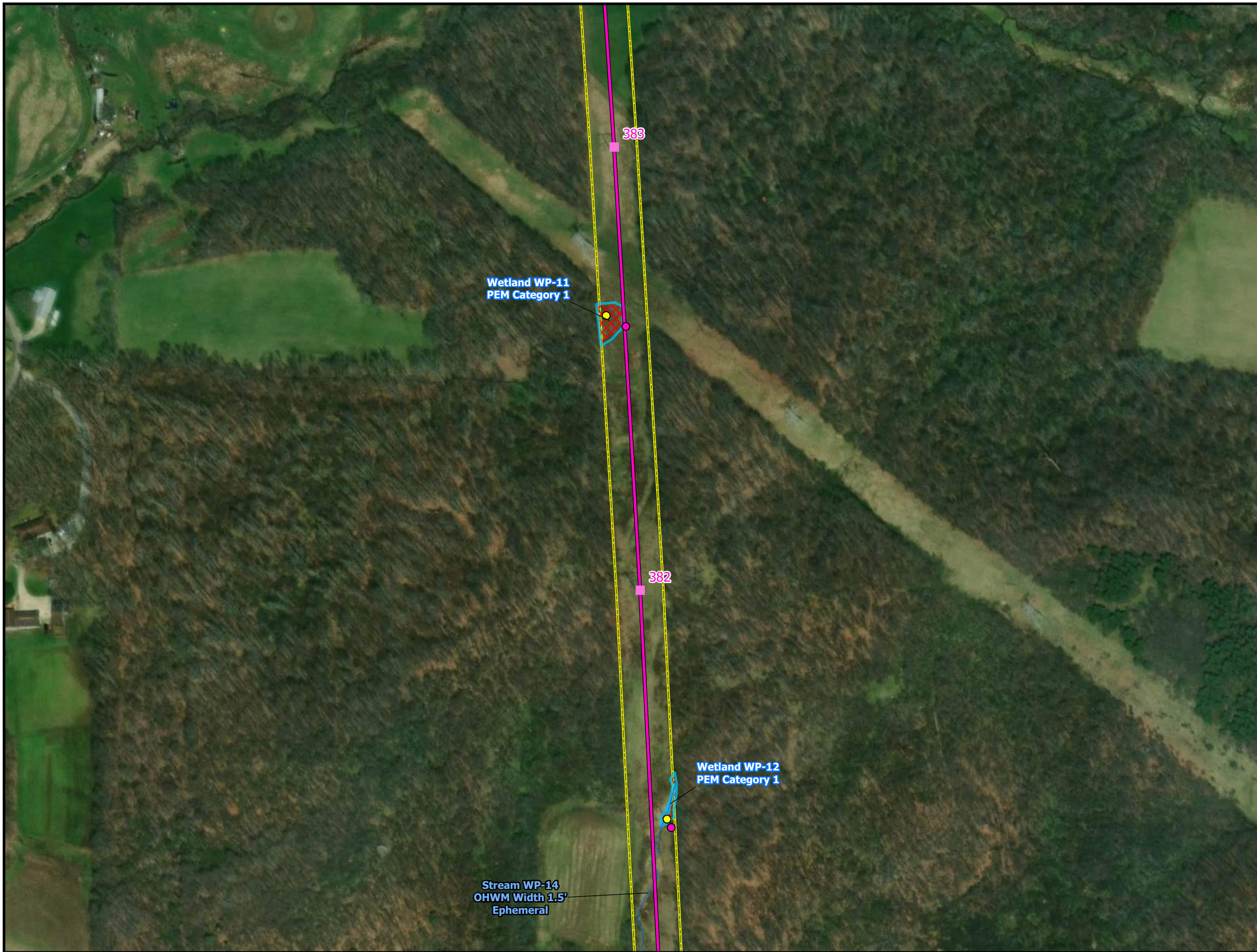
BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 3-14
DELINEATED FEATURES MAP

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

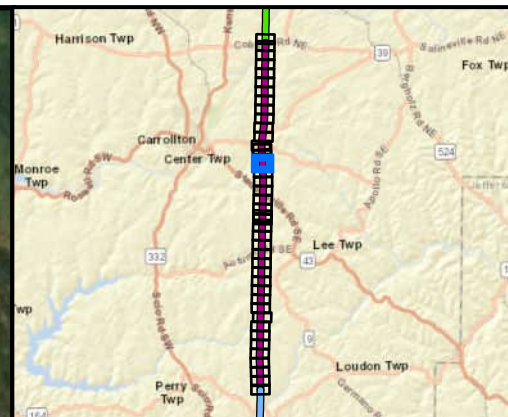
0 200 400
FEET

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**FIGURE 3-15
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

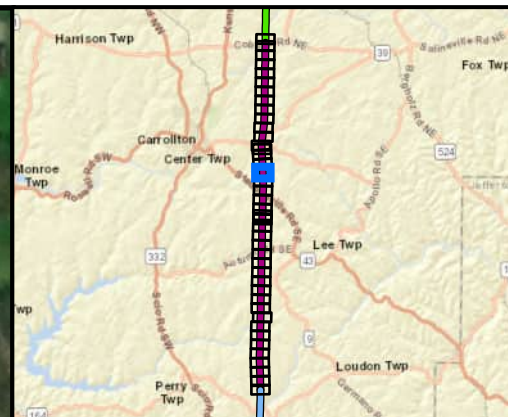
0 200 400
FEET

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**FIGURE 3-16
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

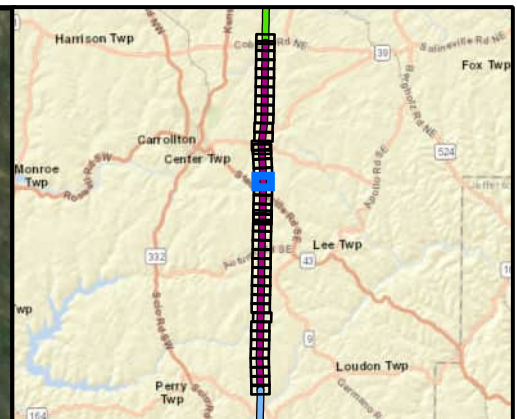
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-17
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

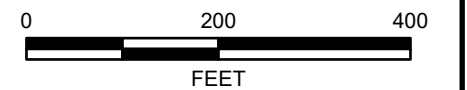


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



ATSI
American Transmission Systems, Inc.
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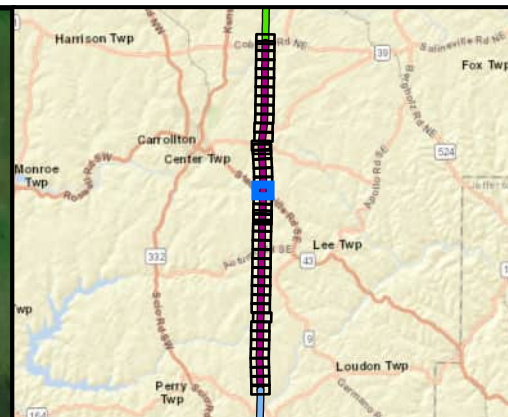
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 3-18
DELINEATED FEATURES MAP

DATE: 6/6/2024

Jacobs

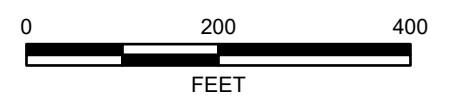
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- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary



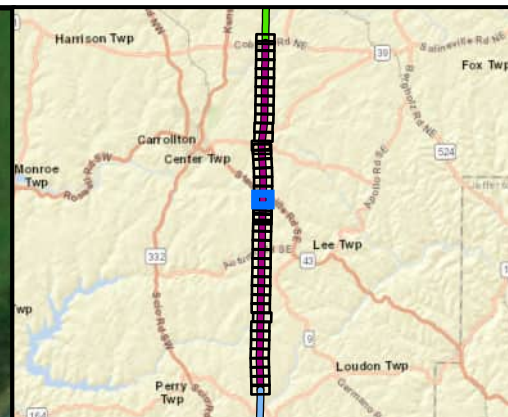
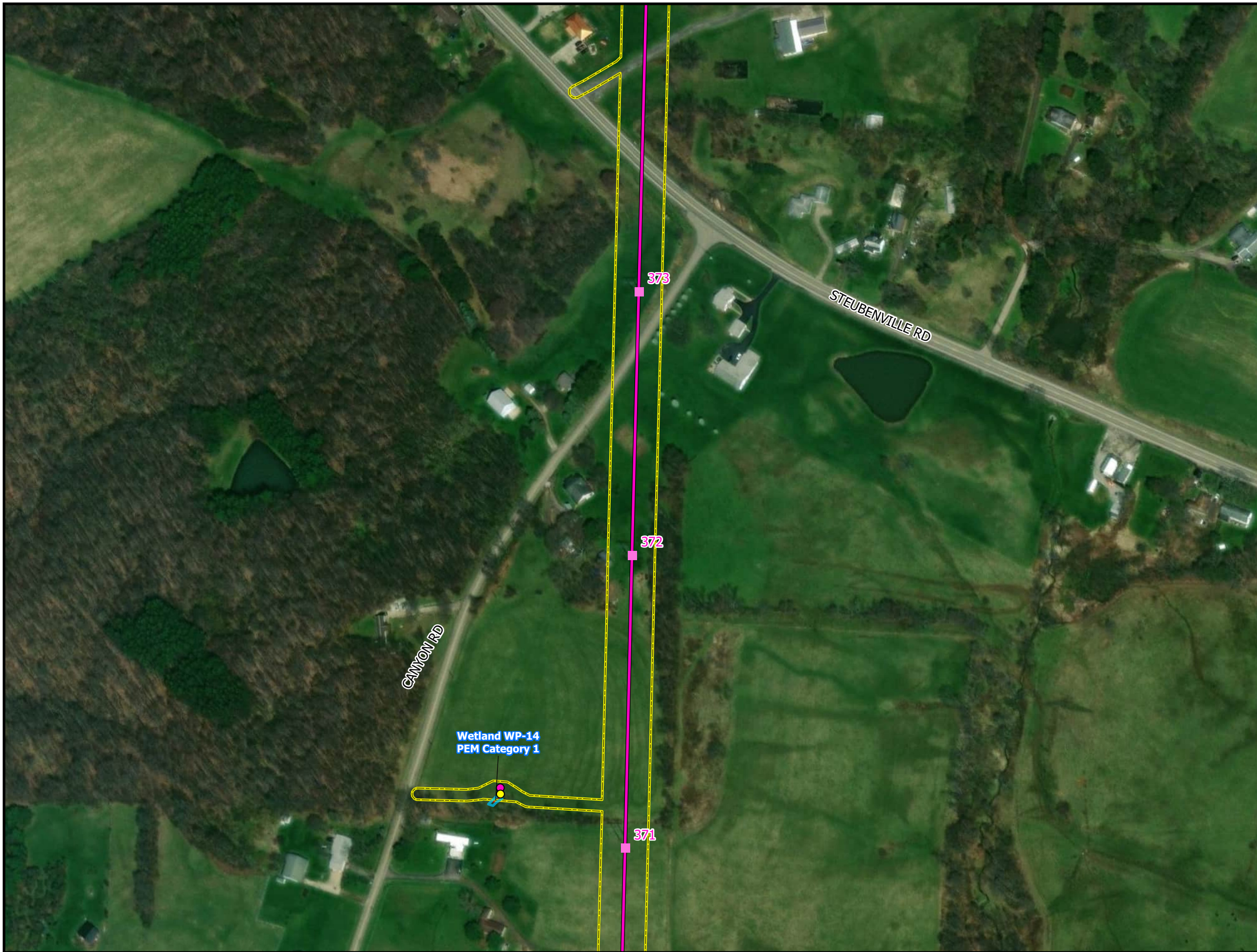
BASE MAP SOURCE:
Esri World Imagery



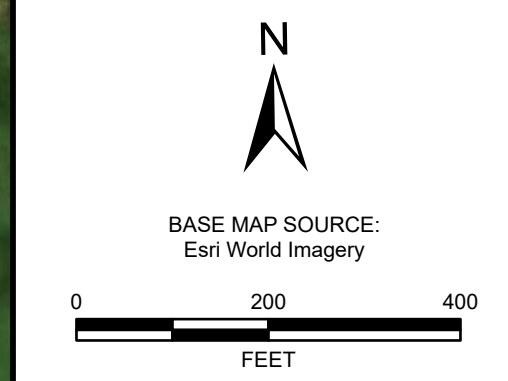
ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

FIGURE 3-19
DELINEATED FEATURES MAP

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary

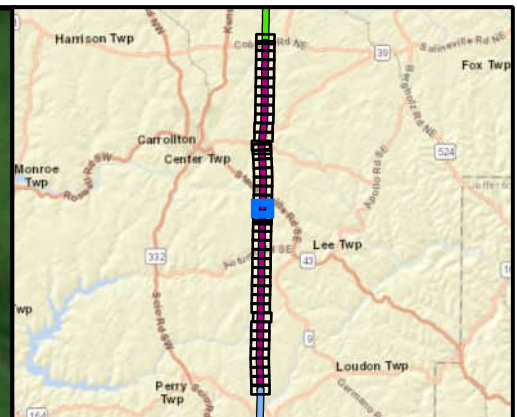
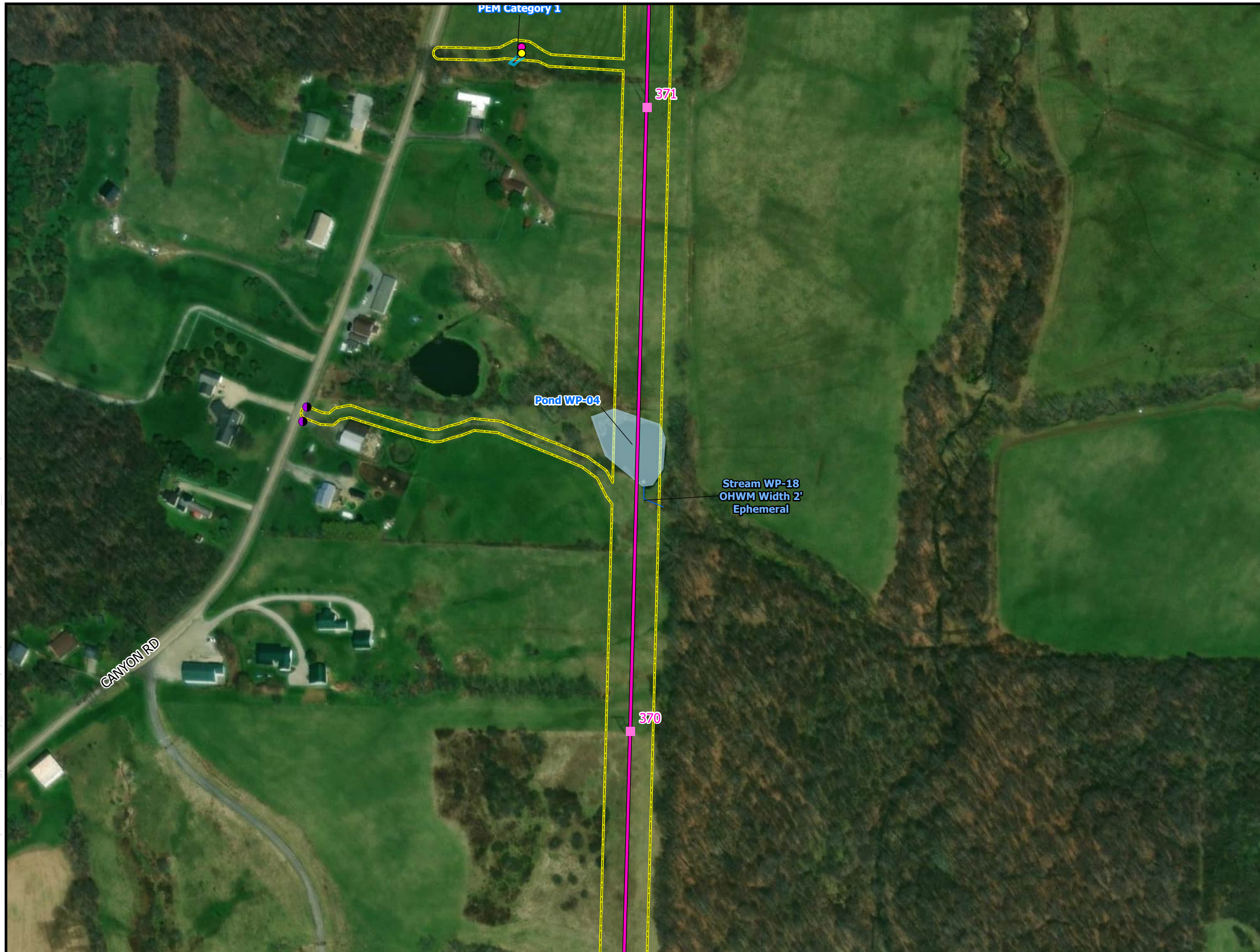


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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**FIGURE 3-20
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

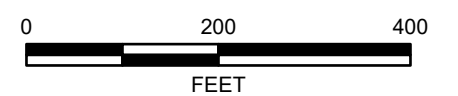


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



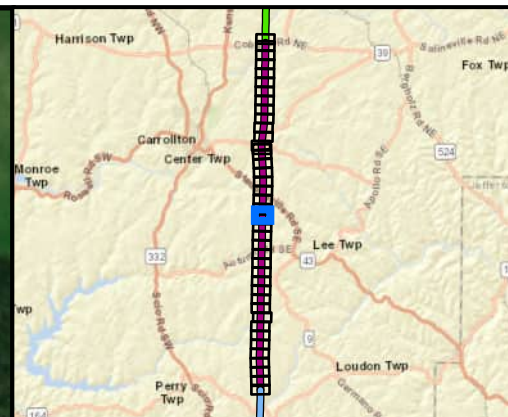
BASE MAP SOURCE:
Esri World Imagery



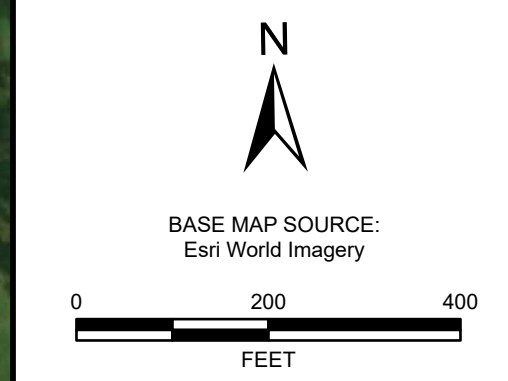
ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-21
DELINEATED FEATURES MAP**

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary

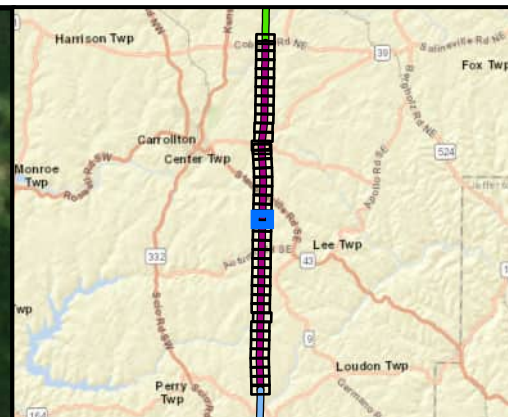
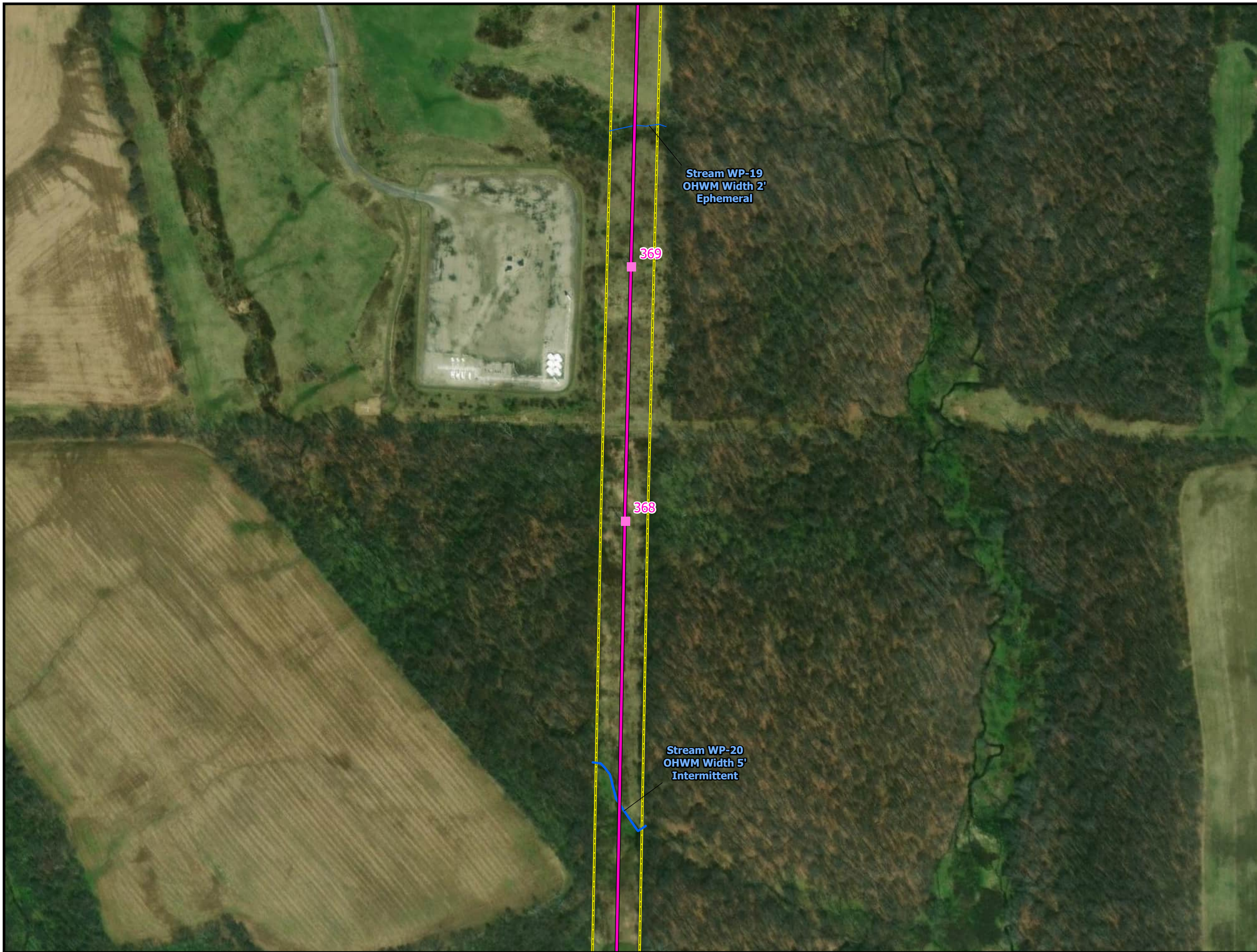


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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**FIGURE 3-22
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

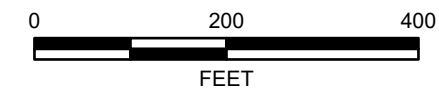


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



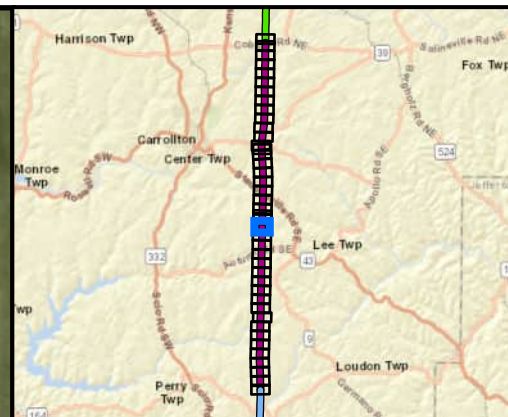
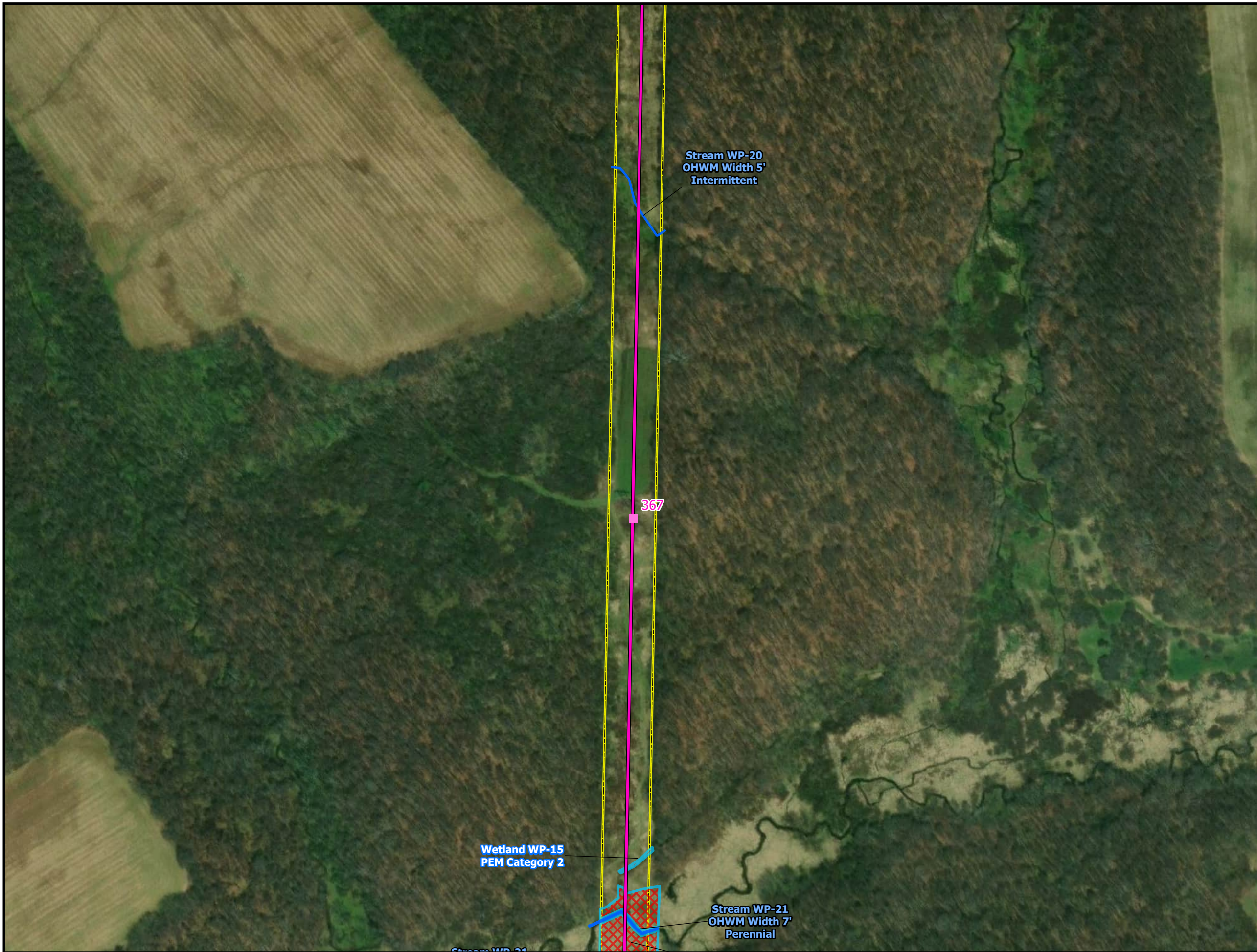
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 3-23
DELINEATED FEATURES MAP

DATE: 6/6/2024



\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

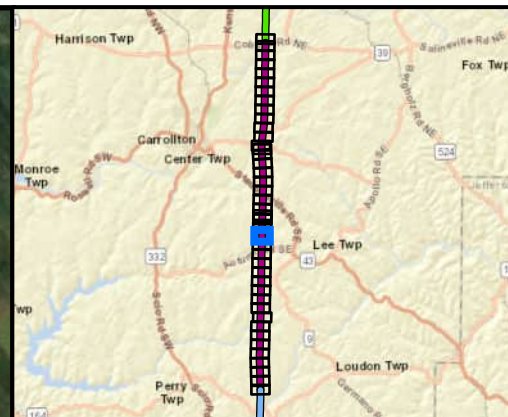
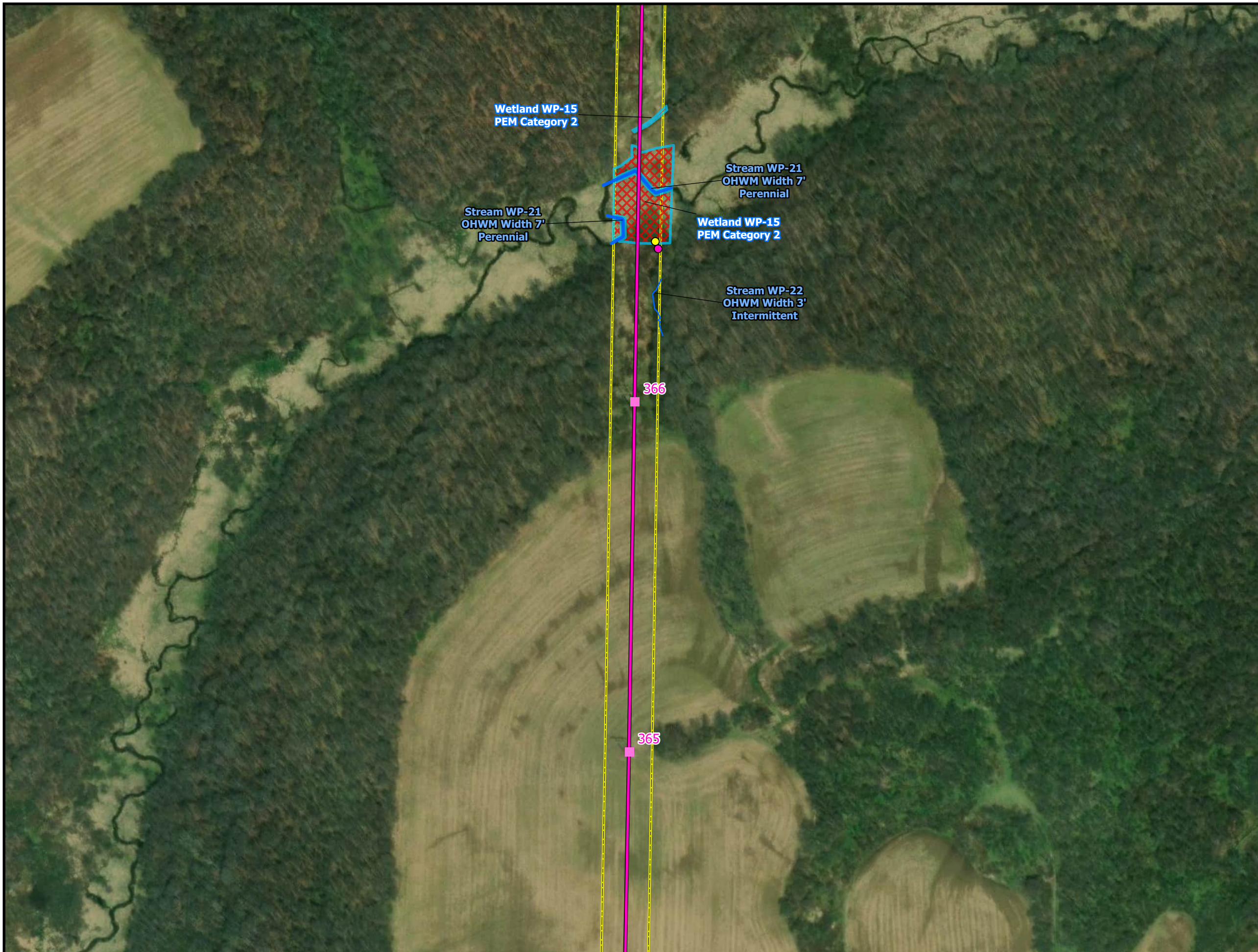
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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**FIGURE 3-24
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- ▨ Delineated PEM Wetland
- ▭ Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

0 200 400
FEET

<p>ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small></p>	<p>Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project</p>
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**FIGURE 3-25
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR_aprx



Stream WP-23
OHWM Width 3.5'

Wetland WP-16
PEM Category 2

AUTUMN RD

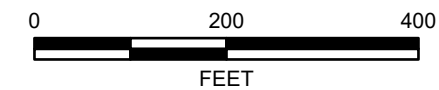


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



ATSI
American Transmission Systems, Inc.
a subsidiary of FirstEnergy Corp.

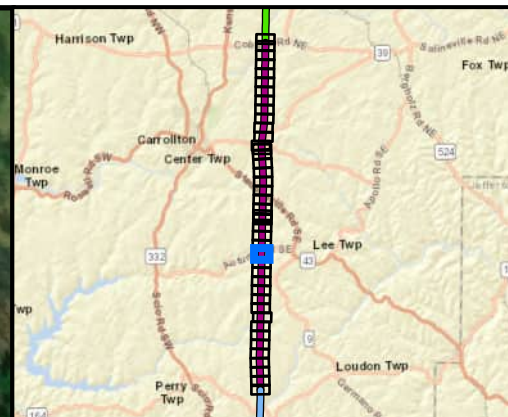
Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 3-26
DELINEATED FEATURES MAP

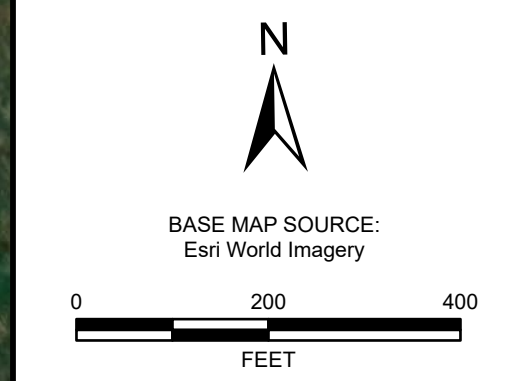
DATE: 6/6/2024

Jacobs

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary



ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-27
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

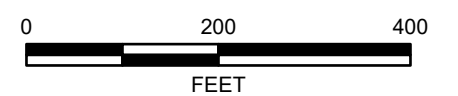


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



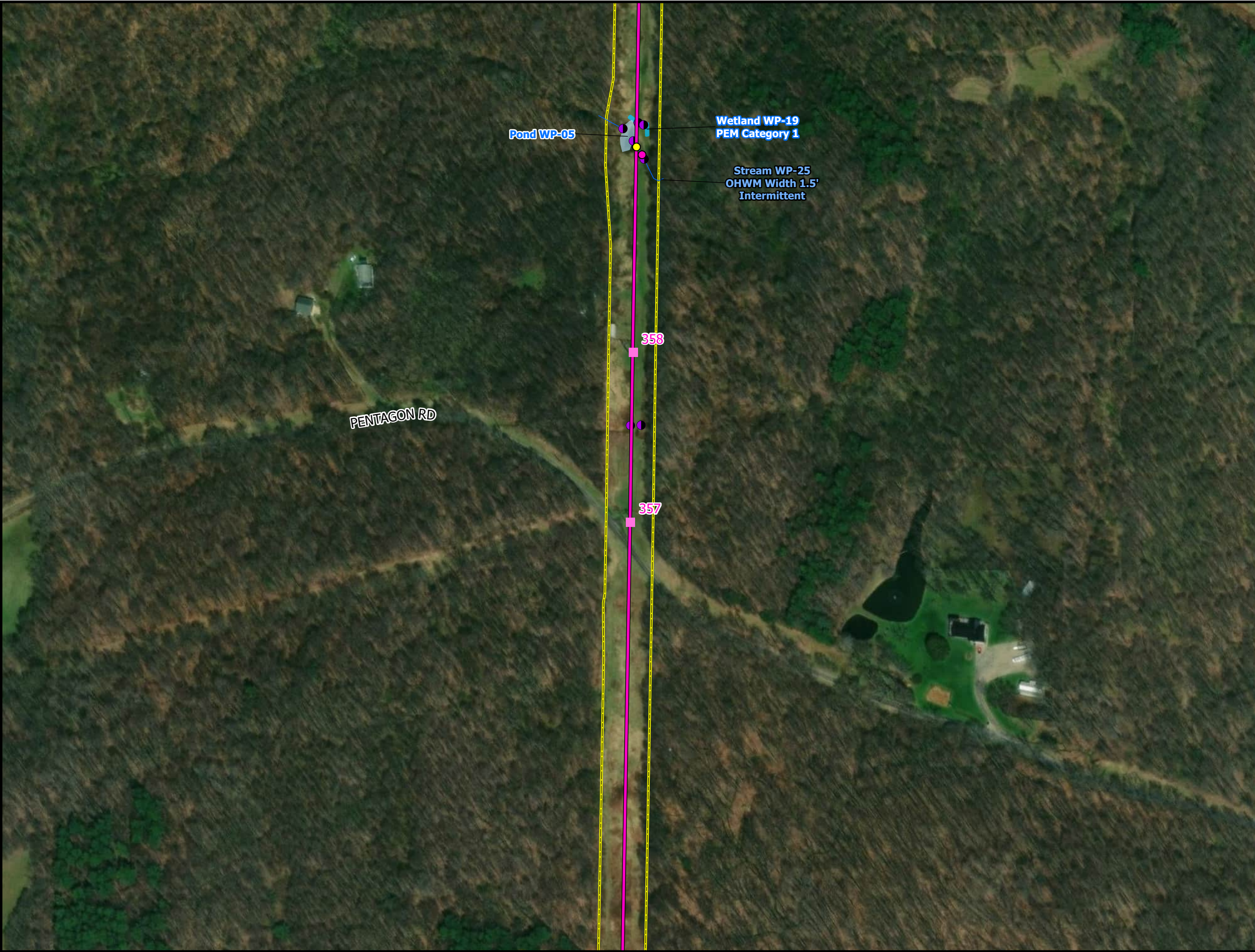
BASE MAP SOURCE:
Esri World Imagery



ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-28
DELINEATED FEATURES MAP**

\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

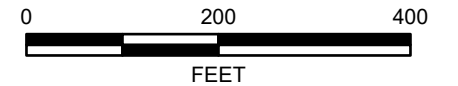


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



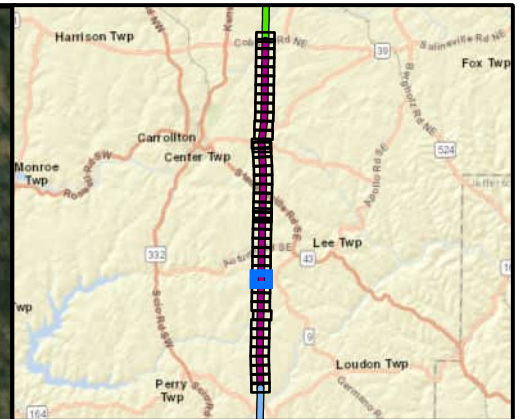
BASE MAP SOURCE:
Esri World Imagery



ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-29
DELINEATED FEATURES MAP**

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

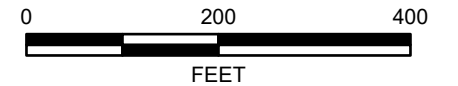


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

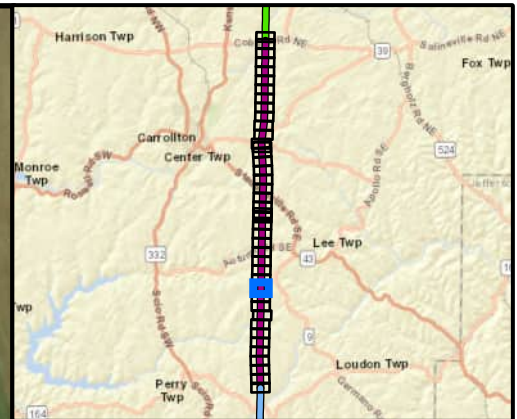


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-30
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

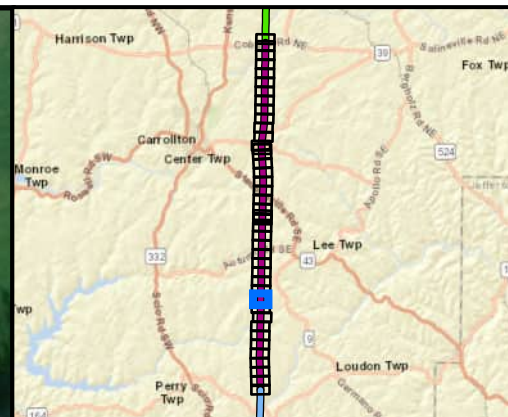
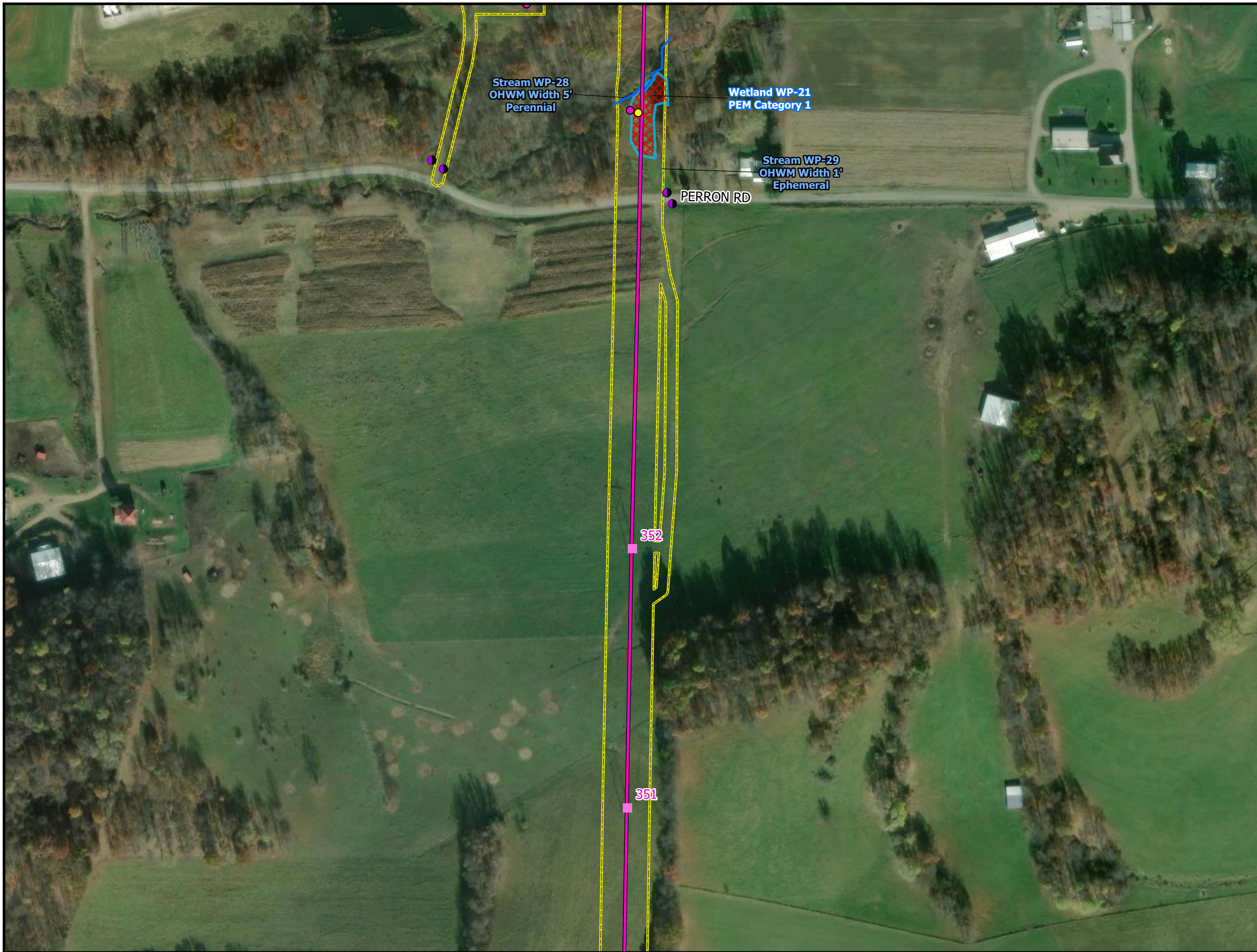
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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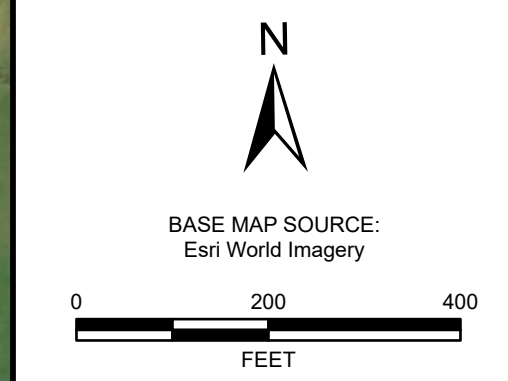
**FIGURE 3-31
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary

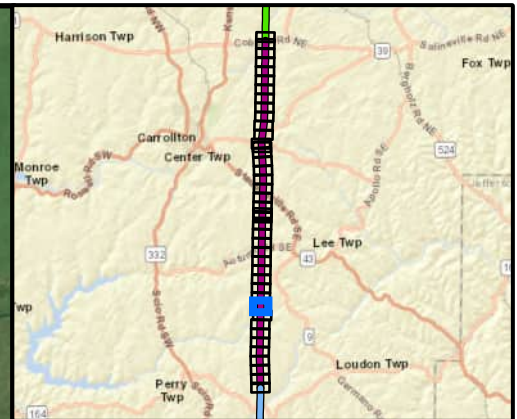
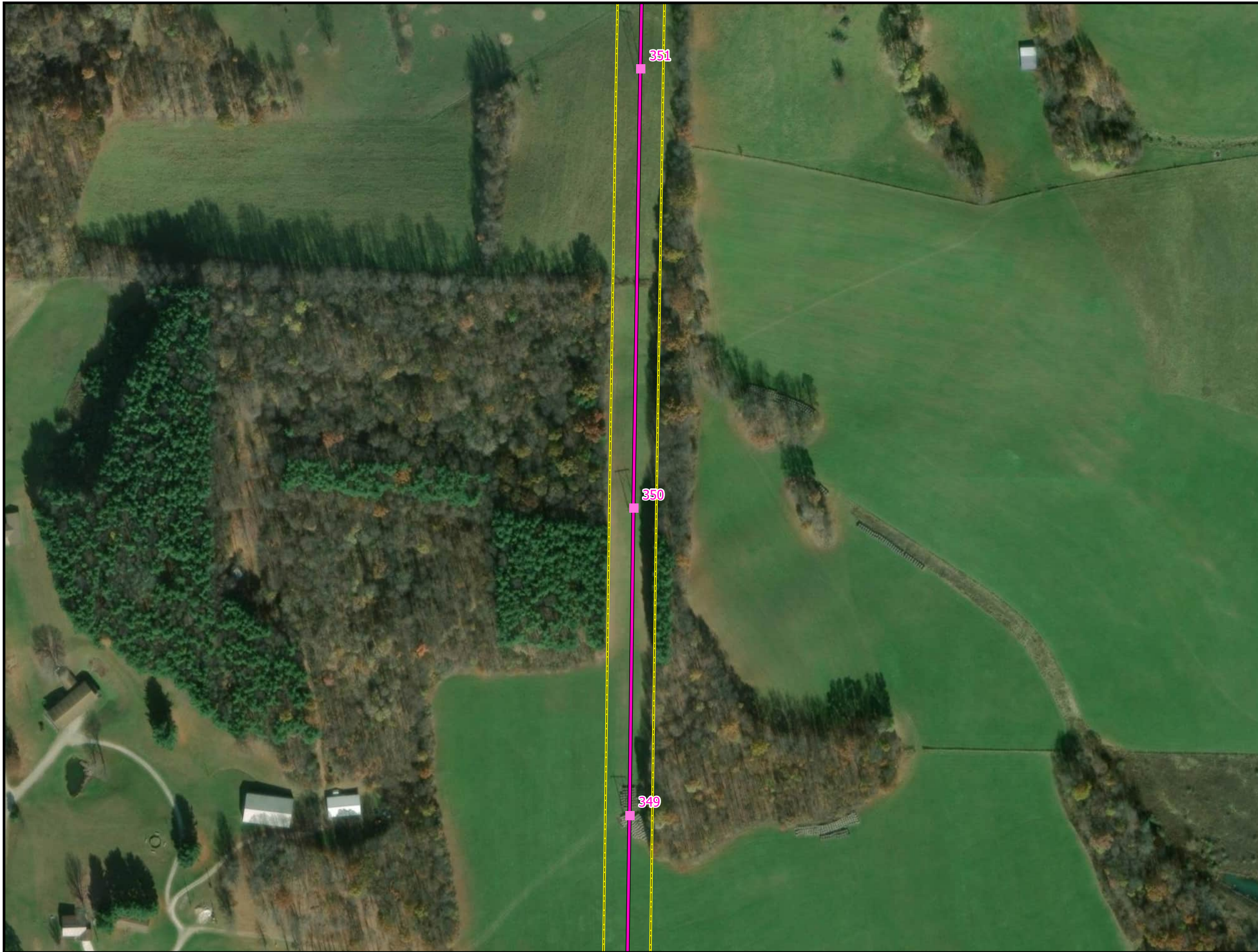


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 3-32
DELINEATED FEATURES MAP

DATE: 6/6/2024	Jacobs
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\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

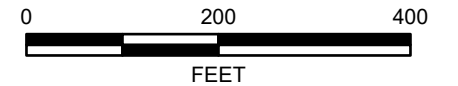


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



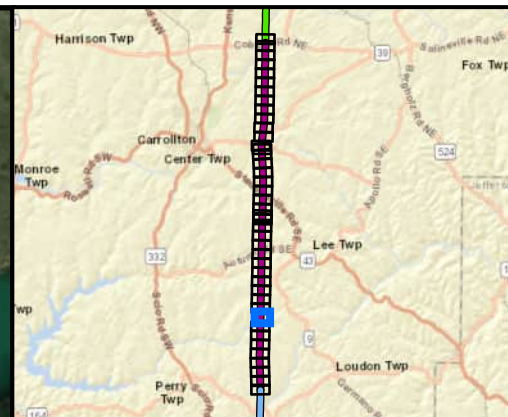
BASE MAP SOURCE:
Esri World Imagery



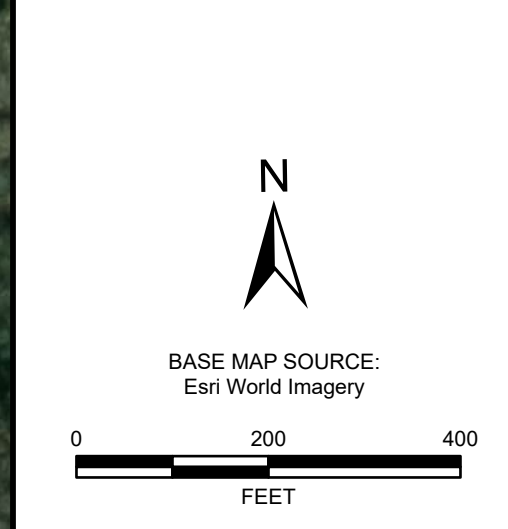
ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-33
DELINEATED FEATURES MAP**

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary

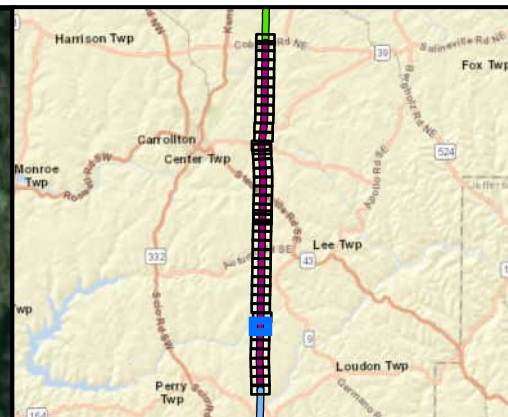


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-34
 DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

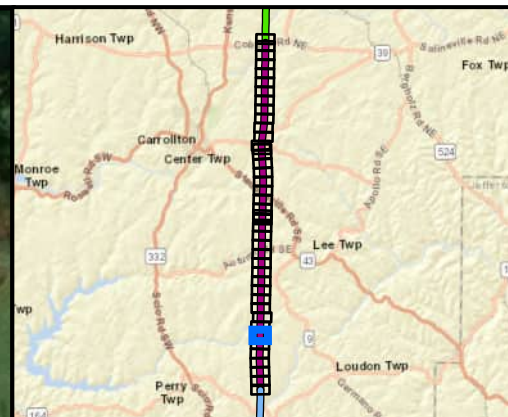
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-35
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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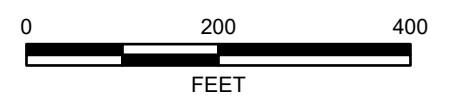
\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - Delineated PEM Wetland
 - Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

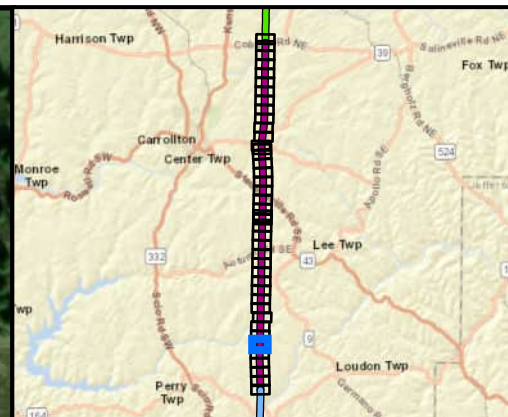


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 3-36
DELINEATED FEATURES MAP

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

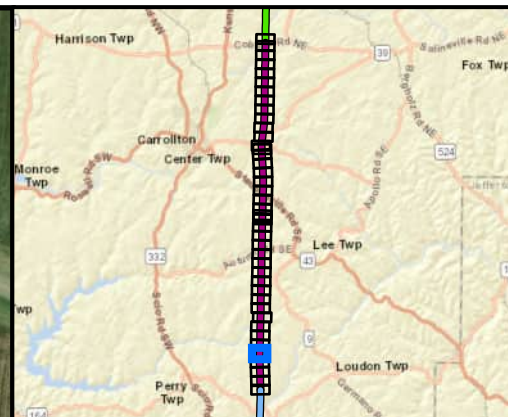
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
---	--

**FIGURE 3-37
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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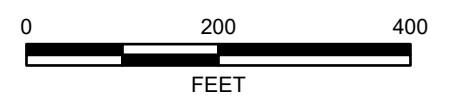
\\dc1vs01\GIS\Proj\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



- LEGEND:**
- Proposed Structure - Direct Embed
 - Upland Data Point
 - Wetland Data Point
 - Culvert
 - Washington-Kilgore (Polo Road) - Phase 2
 - Delineated Stream
 - Delineated Pond
 - ▨ Delineated PEM Wetland
 - ▭ Environmental Survey Boundary



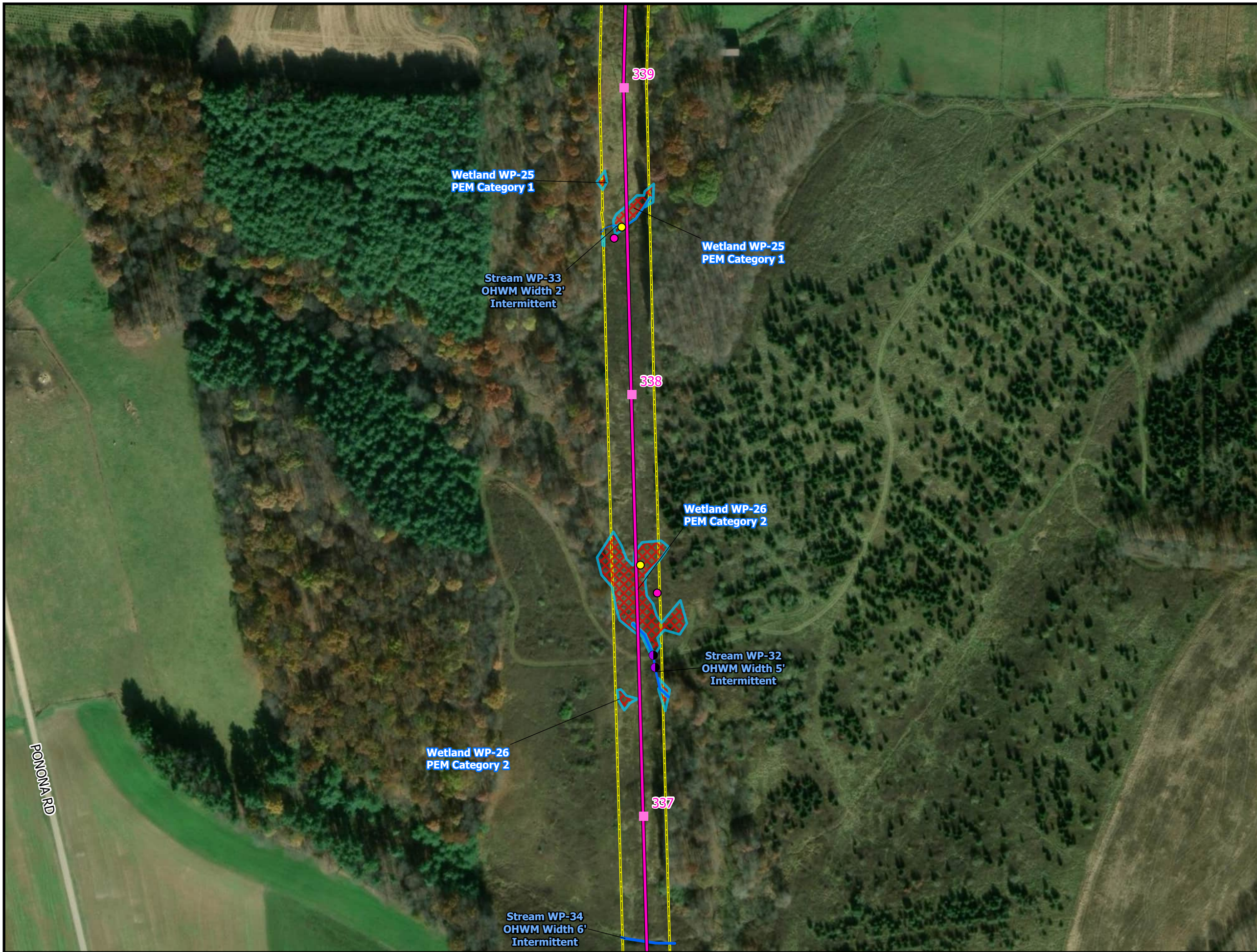
BASE MAP SOURCE:
Esri World Imagery



ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

FIGURE 3-38
DELINEATED FEATURES MAP

\\dc1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

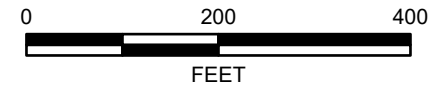


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery

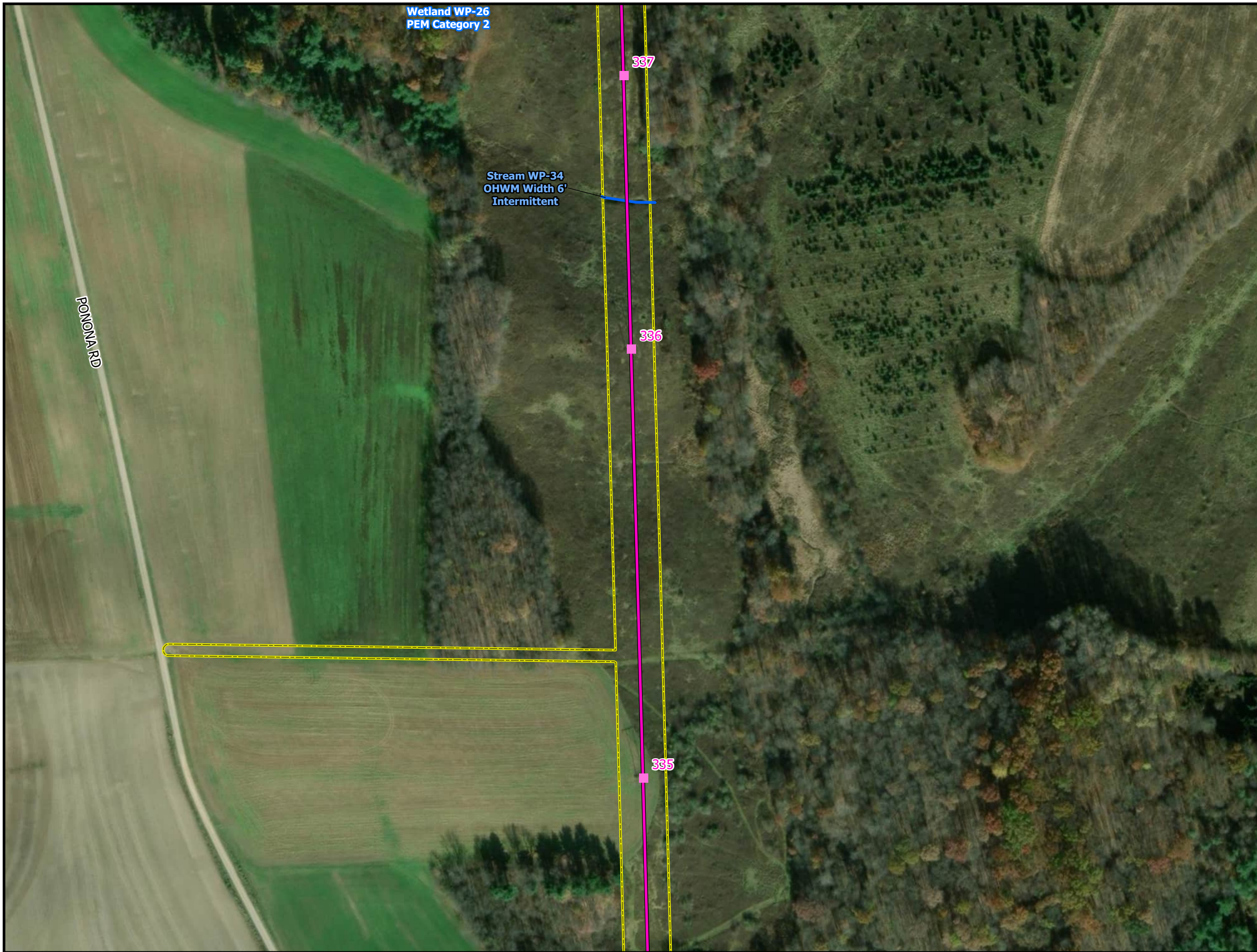


ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
--	--

**FIGURE 3-39
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



Wetland WP-26
PEM Category 2

Stream WP-34
OHWM Width 6'
Intermittent

POMONA RD

337

336

335

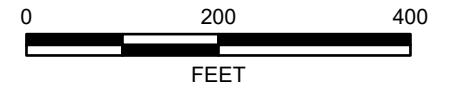


LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



Washington-Kilgore (Polo Road)
138kV Transmission Line
Rebuild Project

FIGURE 3-40
DELINEATED FEATURES MAP

DATE: 6/6/2024



\\dc1vs01\GIS\Proj\GIS\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx



LEGEND:

- Proposed Structure - Direct Embed
- Upland Data Point
- Wetland Data Point
- Culvert
- Washington-Kilgore (Polo Road) - Phase 2
- Delineated Stream
- Delineated Pond
- Delineated PEM Wetland
- Environmental Survey Boundary

N

BASE MAP SOURCE:
Esri World Imagery

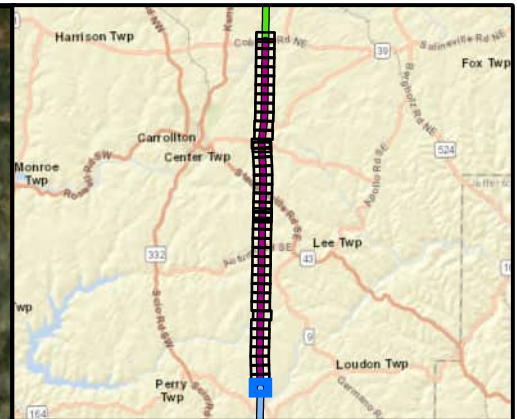
0 200 400
FEET

ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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


**FIGURE 3-41
DELINEATED FEATURES MAP**

DATE: 6/6/2024	Jacobs
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\\dc:1vs01\GIS\Proj\F\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase2\HK_Phase2_WDR.aprx

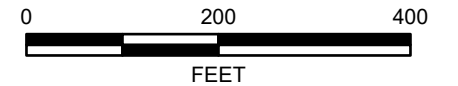


LEGEND:

-  Proposed Structure - Direct Embed
-  Upland Data Point
-  Wetland Data Point
-  Culvert
-  Washington-Kilgore (Polo Road) - Phase 2
-  Polo Road-Buckeye Power - Phase 3
-  Delineated Stream
-  Delineated Pond
-  Delineated PEM Wetland
-  Environmental Survey Boundary



BASE MAP SOURCE:
Esri World Imagery



ATSI <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>	Washington-Kilgore (Polo Road) 138kV Transmission Line Rebuild Project
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FIGURE 3-42
DELINEATED FEATURES MAP

Appendix B
USACE Wetland Determination Field Data Forms

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-01
 Investigator(s): MJA Section, Township, Range: S23 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 0-2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.62406 Long: -81.04312 Datum: NAD 83
 Soil Map Unit Name: Sb: Sebring silt loam NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland in floodplain of Pipe Run. Former ID W-TMQ-542018-5.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Wetland WP-01

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>90</u></td> <td>x 1 = <u>90.0</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140.0</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>163</u> (A)</td> <td><u>239.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.50</u>	Total % Cover of:	Multiply by:	OBL species <u>90</u>	x 1 = <u>90.0</u>	FACW species <u>70</u>	x 2 = <u>140.0</u>	FAC species <u>3</u>	x 3 = <u>9.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>163</u> (A)	<u>239.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>90</u>	x 1 = <u>90.0</u>																	
FACW species <u>70</u>	x 2 = <u>140.0</u>																	
FAC species <u>3</u>	x 3 = <u>9.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>163</u> (A)	<u>239.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Phalaris arundinacea</u>	<u>60</u>		<u>FACW</u>															
2. <u>Onoclea sensibilis</u>	<u>10</u>		<u>FACW</u>															
3. <u>Typha latifolia</u>	<u>20</u>		<u>OBL</u>															
4. <u>Carex crinita</u>	<u>55</u>		<u>OBL</u>															
5. <u>Schoenoplectus tabernaemontani</u>	<u>15</u>		<u>OBL</u>															
6. <u>Toxicodendron radicans</u>	<u>3</u>		<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>163</u> = Total Cover																		
50% of total cover: <u>82</u> 20% of total cover: <u>33</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: W-MJA-052224-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	95	7.5YR 4/6	5	Concen	PL	Silty loam	
8 - 16	10YR 4/2	85	7.5YR 4/6	15	Concen	PL,M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



Soil



E



N



W



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-01
 Investigator(s): MJA Section, Township, Range: S23 T14N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5-10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.62404 Long: -81.04314 Datum: NAD 83
 Soil Map Unit Name: Sb: Sebring silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland point on routinely mowed hill slope.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Upland WP-01

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Toxicodendron radicans</u>	<u>40</u>		<u>FAC</u>	
2. <u>Rubus allegheniensis</u>	<u>15</u>		<u>FACU</u>	
3. <u>Anthoxanthum odoratum</u>	<u>60</u>		<u>FACU</u>	
4. <u>Solidago canadensis</u>	<u>25</u>		<u>FACU</u>	
5. <u>Phalaris arundinacea</u>	<u>15</u>		<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>78</u> 20% of total cover: <u>31</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0.0</u>
FACW species <u>15</u>	x 2 = <u>30.0</u>
FAC species <u>40</u>	x 3 = <u>120.0</u>
FACU species <u>100</u>	x 4 = <u>400.0</u>
UPL species <u>0</u>	x 5 = <u>0.0</u>
Column Totals: <u>155</u> (A)	<u>550.0</u> (B)
Prevalence Index = B/A = <u>3.50</u>	

- Hydrophytic Vegetation Indicators:**
- No 1 - Rapid Test for Hydrophytic Vegetation
 - No 2 - Dominance Test is >50%
 - No 3 - Prevalence Index is ≤3.0¹
 - No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - No Problematic Hydrophytic Vegetation¹ (Explain)
- 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 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.

SOIL

Sampling Point: U-MJA-052224-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10YR 4/4	100					Loam	
4 - 16	10YR 4/4	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u> X </u>
---	--

Remarks:



Soil



W



N



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-02
 Investigator(s): JFW Section, Township, Range: S23 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59241 Long: -81.09258 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-02

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65.0</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>165.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.50</u>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65.0</u>	FACW species <u>40</u>	x 2 = <u>80.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>5</u>	x 4 = <u>20.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>110</u> (A)	<u>165.0</u> (B)
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UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>110</u> (A)	<u>165.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Symplocarpus foetidus</u>	<u>60</u>	Yes	OBL															
2. <u>Impatiens capensis</u>	<u>20</u>	No	FACW															
3. <u>Carex bromoides</u>	<u>20</u>	No	FACW															
4. <u>Cardamine bulbosa</u>	<u>5</u>	No	OBL															
5. <u>Galium aparine</u>	<u>5</u>	No	FACU															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: W-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	85	5YR 3/3	15	Concen	M,PL	Clay loam	
8 - 18	10YR 5/2	70	10YR 3/4	30	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



E



S



W



N



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-02
 Investigator(s): JFW Section, Township, Range: S23 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59241 Long: -81.09259 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-02

	Absolute % Cover	Dominant Species?	Indicator Status																																									
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)																																								
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Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%;">Multiply by:</td> <td style="width:20%;"></td> </tr> <tr> <td>OBL species</td> <td><u>0</u></td> <td>x 1 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td><u>0</u></td> <td>x 2 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td><u>40</u></td> <td>x 3 =</td> <td><u>120.0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td><u>82</u></td> <td>x 4 =</td> <td><u>328.0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0.0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td><u>122</u></td> <td>(A)</td> <td><u>448.0</u></td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>3.70</u></td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0.0</u>		FACW species	<u>0</u>	x 2 =	<u>0.0</u>		FAC species	<u>40</u>	x 3 =	<u>120.0</u>		FACU species	<u>82</u>	x 4 =	<u>328.0</u>		UPL species	<u>0</u>	x 5 =	<u>0.0</u>		Column Totals:	<u>122</u>	(A)	<u>448.0</u>	(B)	Prevalence Index = B/A = <u>3.70</u>				
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50% of total cover: _____ 20% of total cover: _____																																												
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)																																								
1. <u>Podophyllum peltatum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																																									
2. <u>Rosa multiflora</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																																									
3. <u>Schedonorus arundinaceus</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>																																									
4. <u>Dichanthelium clandestinum</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>																																									
5. <u>Galium aparine</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
10. _____	_____	_____	_____																																									
11. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: <u>61</u> 20% of total cover: <u>24</u>																																												
Woody Vine Stratum (Plot size: <u>30</u>)				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.																																								
1. _____	_____	_____	_____																																									
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
_____ = Total Cover																																												
50% of total cover: _____ 20% of total cover: _____																																												
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																																								

SOIL

Sampling Point: U-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/3	100					Silty clay	
6 - 18	10YR 5/4	100					Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



Soil



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-03
 Investigator(s): JFW Section, Township, Range: S23 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59240 Long: -81.09257 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-03

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>85</u> x 2 = <u>170.0</u> FAC species <u>15</u> x 3 = <u>45.0</u> FACU species <u>5</u> x 4 = <u>20.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>105</u> (A) <u>235.0</u> (B) Prevalence Index = B/A = <u>2.20</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Phalaris arundinacea</u>	<u>80</u>	Yes	FACW		
2. <u>Impatiens capensis</u>	<u>5</u>	No	FACW		
3. <u>Clematis virginiana</u>	<u>10</u>	No	FAC		
4. <u>Rosa multiflora</u>	<u>5</u>	No	FACU		
5. <u>Epilobium ciliatum</u>	<u>5</u>	No	FAC		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				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.	
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: W-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10YR 3/2						Silty clay loam	
4 - 6	10YR 4/1		10YR 5/8				Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock
 Depth (inches): 6.0

Hydric Soil Present? Yes X No

Remarks:



S



W



N



E



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-04
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59241 Long: -81.09259 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-04

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">Multiply by:</td> <td style="width:25%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>50</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>50.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>60</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>120.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>20</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>60.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>40.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>140</u></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;"><u>270.0</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <u>1.90</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>50</u>	x 1 =	<u>50.0</u>	FACW species	<u>60</u>	x 2 =	<u>120.0</u>	FAC species	<u>20</u>	x 3 =	<u>60.0</u>	FACU species	<u>10</u>	x 4 =	<u>40.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>140</u>	(A)	<u>270.0</u> (B)	Prevalence Index = B/A = <u>1.90</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>50</u>	x 1 =	<u>50.0</u>																																	
FACW species	<u>60</u>	x 2 =	<u>120.0</u>																																	
FAC species	<u>20</u>	x 3 =	<u>60.0</u>																																	
FACU species	<u>10</u>	x 4 =	<u>40.0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																																	
Column Totals:	<u>140</u>	(A)	<u>270.0</u> (B)																																	
Prevalence Index = B/A = <u>1.90</u>																																				
50% of total cover: _____ 20% of total cover: _____																																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																																
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
_____ = Total Cover																																				
50% of total cover: _____ 20% of total cover: _____																																				
Herb Stratum (Plot size: <u>5</u>)				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.																																
1. <u>Juncus effusus</u>	<u>20</u>	<u>No</u>	<u>FACW</u>																																	
2. <u>Carex stipata</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>																																	
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																	
4. <u>Clematis virginiana</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																																	
5. <u>Rosa multiflora</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																																	
6. <u>Valerianella radiata</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																																	
7. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
11. _____	_____	_____	_____																																	
_____ = Total Cover																																				
50% of total cover: <u>70</u> 20% of total cover: <u>28</u>																																				
Woody Vine Stratum (Plot size: <u>30</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
_____ = Total Cover																																				
50% of total cover: _____ 20% of total cover: _____																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Sampling Point: W-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 14	10YR 3/2	90	5YR 3/4	10	Concen	M	Clay loam	
14 - 18	Gley 1 4/10Y	70	10YR 5/8	30	Concen	M	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-03,04
 Investigator(s): JFW Section, Township, Range: S23 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59240 Long: -81.09259 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-03,04

	Absolute % Cover	Dominant Species?	Indicator Status																																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																																
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																				
1. <u>Rosa multiflora</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>145</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>580.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>145</u></td> <td>(A)</td> <td style="text-align: center;"><u>580.0</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	_____	Multiply by:	_____	OBL species	<u>0</u>	x 1 =	<u>0.0</u>	FACW species	<u>0</u>	x 2 =	<u>0.0</u>	FAC species	<u>0</u>	x 3 =	<u>0.0</u>	FACU species	<u>145</u>	x 4 =	<u>580.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>145</u>	(A)	<u>580.0</u> (B)	Prevalence Index = B/A = <u>4.00</u>			
Total % Cover of:	_____	Multiply by:	_____																																	
OBL species	<u>0</u>	x 1 =	<u>0.0</u>																																	
FACW species	<u>0</u>	x 2 =	<u>0.0</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0.0</u>																																	
FACU species	<u>145</u>	x 4 =	<u>580.0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																																	
Column Totals:	<u>145</u>	(A)	<u>580.0</u> (B)																																	
Prevalence Index = B/A = <u>4.00</u>																																				
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>20</u>																																				
Herb Stratum (Plot size: <u>5</u>)																																				
1. <u>Poa annua</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																																	
2. <u>Polystichum acrostichoides</u>	<u>20</u>	<u>No</u>	<u>FACU</u>																																	
3. <u>Solidago canadensis</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																																	
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																																	
5. <u>Rosa multiflora</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
11. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: <u>53</u> 20% of total cover: <u>21</u>																																				
Woody Vine Stratum (Plot size: <u>30</u>)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																																				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																																
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.																																				



S



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 04/30/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-05
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.61388 Long: -81.04304 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-05

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>20</u> x 1 = <u>20.0</u> FACW species <u>85</u> x 2 = <u>170.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>10</u> x 4 = <u>40.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>115</u> (A) <u>230.0</u> (B) Prevalence Index = B/A = <u>2.00</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Rosa multiflora</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover		_____ = Total Cover		Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: <u>5</u>		20% of total cover: <u>5</u>			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Phalaris arundinacea</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>		
2. <u>Carex vulpinoidea</u>	<u>20</u>	<u>No</u>	<u>OBL</u>		
3. <u>Scirpus cyperinus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>		
4. <u>Impatiens capensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>		
5. <u>Solidago gigantea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover		_____ = Total Cover			
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>			
Woody Vine Stratum (Plot size: <u>30</u>)				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.	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover		_____ = Total Cover			
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	

SOIL

Sampling Point: W-JFW-043C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 5/1	80	5YR 5/8	20	Concen	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



E



S



Soil



W



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 04/30/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-05
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.61410 Long: -81.04299 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-05

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30.0</u></td> </tr> <tr> <td>FACU species <u>105</u></td> <td>x 4 = <u>420.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>450.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.90</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>10</u>	x 3 = <u>30.0</u>	FACU species <u>105</u>	x 4 = <u>420.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>115</u> (A)	<u>450.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>10</u>	x 3 = <u>30.0</u>																	
FACU species <u>105</u>	x 4 = <u>420.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>115</u> (A)	<u>450.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Cirsium arvense</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Alliaria petiolata</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>															
3. <u>Taraxacum officinale</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
4. <u>Glechoma hederacea</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>															
5. <u>Clematis virginiana</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
6. <u>Poa annua</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
7. <u>Allium canadense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>58</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														

SOIL

Sampling Point: U-JFW-0430

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 12	10YR 4/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 12.0

Hydric Soil Present? Yes No

Remarks:



Soil



SE

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 04/30/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-06
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.60830 Long: -81.04309 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-06

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>110</u> x 2 = <u>220.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>10</u> x 4 = <u>40.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>120</u> (A) <u>260.0</u> (B) Prevalence Index = B/A = <u>2.20</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>Rubus allegheniensis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5</u>		20% of total cover: <u>5</u>		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Scirpus cyperinus</u>	<u>80</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Onoclea sensibilis</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
3. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
4. <u>Solidago gigantea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>55</u>		20% of total cover: <u>22</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Indicators:
No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
Yes 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes X No _____

SOIL

Sampling Point: W-JFW-043C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 14	10YR 4/1	85	7.5YR 4/6	15	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 14.0

Hydric Soil Present? Yes X No

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 04/30/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-06
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.60831 Long: -81.04306 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Upland WP-06

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>20</u> (A)</td> <td><u>80.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>20</u>	x 4 = <u>80.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>20</u> (A)	<u>80.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>20</u>	x 4 = <u>80.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>20</u> (A)	<u>80.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Andropogon virginicus</u>	10	No	FACU															
2. <u>Anthoxanthum odoratum</u>	50	Yes	FACU															
3. <u>Rosa multiflora</u>	20	Yes	FACU															
4. <u>Achillea millefolium</u>	5	No	FACU															
5. <u>Solidago canadensis</u>	10	No	FACU															
6. <u>Houstonia caerulea</u>	5	No	FACU															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present?																		
Yes _____ No <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: U-JFW-0430

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/4	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



Soil



NE

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 04/30/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-07
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 4
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.60557 Long: -81.04331 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-07

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>85</u></td> <td>x 2 = <u>170.0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60.0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>270.0</u> (B)</td> </tr> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>2.30</u></p>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>85</u>	x 2 = <u>170.0</u>	FAC species <u>20</u>	x 3 = <u>60.0</u>	FACU species <u>10</u>	x 4 = <u>40.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>115</u> (A)	<u>270.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>85</u>	x 2 = <u>170.0</u>																	
FAC species <u>20</u>	x 3 = <u>60.0</u>																	
FACU species <u>10</u>	x 4 = <u>40.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>115</u> (A)	<u>270.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Juncus effusus</u>	<u>50</u>	Yes	FACW															
2. <u>Barbarea vulgaris</u>	<u>10</u>	No	FACU															
3. <u>Onoclea sensibilis</u>	<u>10</u>	No	FACW															
4. <u>Impatiens capensis</u>	<u>5</u>	No	FACW															
5. <u>Dichanthelium clandestinum</u>	<u>20</u>	Yes	FAC															
6. <u>Phalaris arundinacea</u>	<u>20</u>	Yes	FACW															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>58</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: W-JFW-043C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	85	7.5YR 4/6	15	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Clay</u> Depth (inches): <u>16.0</u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>
---	---

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 04/30/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-07
 Investigator(s): JFW Section, Township, Range: S22 T14N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.60563 Long: -81.04330 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-07

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>0</u> x 2 = <u>0.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>100</u> x 4 = <u>400.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>100</u> (A) <u>400.0</u> (B) Prevalence Index = B/A = <u>4.00</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Andropogon virginicus</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>		¹ 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.
2. <u>Anthoxanthum odoratum</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>		
3. <u>Houstonia caerulea</u>	<u>10</u>	<u>No</u>	<u>FACU</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>50</u>		20% of total cover: <u>20</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: U-JFW-0430

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	2.5Y 5/3	60	7.5YR 4/6	40	Concen	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



N



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-08
 Investigator(s): JFW Section, Township, Range: S21 T14N R5W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59835 Long: -81.04363 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-08

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20.0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>290.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.30</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20.0</u>	FACW species <u>75</u>	x 2 = <u>150.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>30</u>	x 4 = <u>120.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>125</u> (A)	<u>290.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20.0</u>																	
FACW species <u>75</u>	x 2 = <u>150.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>30</u>	x 4 = <u>120.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>125</u> (A)	<u>290.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u>Problematic Hydrophytic Vegetation</u> ¹ (Explain)														
1. <u>Onoclea sensibilis</u>	<u>40</u>	Yes	FACW															
2. <u>Cardamine bulbosa</u>	<u>20</u>	No	OBL															
3. <u>Lysimachia nummularia</u>	<u>10</u>	No	FACW															
4. <u>Impatiens capensis</u>	<u>20</u>	No	FACW															
5. <u>Juncus effusus</u>	<u>5</u>	No	FACW															
6. <u>Poa annua</u>	<u>30</u>	Yes	FACU															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>63</u> 20% of total cover: <u>25</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	5Y 4/1	80	10YR 5/8	20	Concen	PL,M	Silty clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-08
 Investigator(s): JFW Section, Township, Range: S21 T14N R5W
 Landform (hillslope, terrace, etc.): Undulating Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59241 Long: -81.09256 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-08

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10.0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75.0</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>365.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.70</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>5</u>	x 2 = <u>10.0</u>	FAC species <u>25</u>	x 3 = <u>75.0</u>	FACU species <u>70</u>	x 4 = <u>280.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100</u> (A)	<u>365.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>5</u>	x 2 = <u>10.0</u>																	
FAC species <u>25</u>	x 3 = <u>75.0</u>																	
FACU species <u>70</u>	x 4 = <u>280.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100</u> (A)	<u>365.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Verbascum thapsus</u>	<u>10</u>	No	FACU															
2. <u>Podophyllum peltatum</u>	<u>5</u>	No	FACU															
3. <u>Solidago rugosa</u>	<u>25</u>	Yes	FAC															
4. <u>Galium aparine</u>	<u>5</u>	No	FACU															
5. <u>Alliaria petiolata</u>	<u>5</u>	No	FACU															
6. <u>Rosa multiflora</u>	<u>5</u>	No	FACU															
7. <u>Phalaris arundinacea</u>	<u>5</u>	No	FACW															
8. <u>Poa annua</u>	<u>40</u>	Yes	FACU															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														

SOIL

Sampling Point: U-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 4	10YR 4/3	100					Loam	
4 - 16	2.5Y 5/4	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 16.0

Hydric Soil Present? Yes No

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-09
 Investigator(s): JFW Section, Township, Range: S20 T14N R5W
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.58043 Long: -81.04477 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6099) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-09

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5.0</u></td> </tr> <tr> <td>FACW species <u>105</u></td> <td>x 2 = <u>210.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>215.0</u> (B)</td> </tr> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>2.00</u></p>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5.0</u>	FACW species <u>105</u>	x 2 = <u>210.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>110</u> (A)	<u>215.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5.0</u>																	
FACW species <u>105</u>	x 2 = <u>210.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>110</u> (A)	<u>215.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Carex bromoides</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Phalaris arundinacea</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>															
3. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
4. <u>Juncus effusus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
5. <u>Scirpus atrovirens</u>	<u>5</u>	<u>No</u>	<u>OBL</u>															
6. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/1	90	10YR 4/4	10	Concen	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
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Remarks:



Soil



N



E



S



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-09
 Investigator(s): JFW Section, Township, Range: S20 T14N R5W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.58049 Long: -81.04481 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6099) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-09

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>15</u> x 2 = <u>30.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>95</u> x 4 = <u>380.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>110</u> (A) <u>410.0</u> (B) Prevalence Index = B/A = <u>3.70</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <i>Phalaris arundinacea</i>	10	No	FACW		
2. <i>Solidago canadensis</i>	20	No	FACU		
3. <i>Anthoxanthum odoratum</i>	60	Yes	FACU		
4. <i>Apocynum cannabinum</i>	5	No	FACU		
5. <i>Taraxacum officinale</i>	10	No	FACU		
6. <i>Agrimonia parviflora</i>	5	No	FACW		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				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.	
50% of total cover: <u>55</u>		20% of total cover: <u>22</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: U-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/2	90	10YR 4/4	10	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-10
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59242 Long: -81.09258 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-10

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>95</u></td> <td>x 2 = <u>190.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>210.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.10</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>95</u>	x 2 = <u>190.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>5</u>	x 4 = <u>20.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100</u> (A)	<u>210.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>95</u>	x 2 = <u>190.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>5</u>	x 4 = <u>20.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100</u> (A)	<u>210.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Galium aparine</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
3. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		

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



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/01/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-10
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.59241 Long: -81.09249 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-10

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40.0</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15.0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>515.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.70</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>20</u>	x 2 = <u>40.0</u>	FAC species <u>5</u>	x 3 = <u>15.0</u>	FACU species <u>115</u>	x 4 = <u>460.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>140</u> (A)	<u>515.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>20</u>	x 2 = <u>40.0</u>																	
FAC species <u>5</u>	x 3 = <u>15.0</u>																	
FACU species <u>115</u>	x 4 = <u>460.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>140</u> (A)	<u>515.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Trifolium repens</u>	<u>60</u>	Yes	FACU															
2. <u>Phalaris arundinacea</u>	<u>20</u>	No	FACW															
3. <u>Poa annua</u>	<u>50</u>	Yes	FACU															
4. <u>Ranunculus repens</u>	<u>5</u>	No	FAC															
5. <u>Glechoma hederacea</u>	<u>5</u>	No	FACU															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>70</u> 20% of total cover: <u>28</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														

SOIL

Sampling Point: U-JFW-0501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/4	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u> X </u>
---	--

Remarks:



Soil



NE

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-11
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.57005 Long: -81.04604 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-11

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45.0</u></td> </tr> <tr> <td>FACW species <u>45</u></td> <td>x 2 = <u>90.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>295.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.30</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45.0</u>	FACW species <u>45</u>	x 2 = <u>90.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>40</u>	x 4 = <u>160.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>130</u> (A)	<u>295.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45.0</u>																	
FACW species <u>45</u>	x 2 = <u>90.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>40</u>	x 4 = <u>160.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>130</u> (A)	<u>295.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Carex bromoides</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Scirpus atrovirens</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>															
3. <u>Cardamine bulbosa</u>	<u>15</u>	<u>No</u>	<u>OBL</u>															
4. <u>Onoclea sensibilis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
5. <u>Poa annua</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>65</u> 20% of total cover: <u>26</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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? Yes <u>X</u> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	80	5YR 3/4	20	Concen	PL,M	Clay loam	
6 - 12	10YR 6/2	50	10YR 5/8	50	Concen	M	Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 12.0

Hydric Soil Present? Yes X No

Remarks:



Soil



E



S



W



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-11
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.56998 Long: -81.04589 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-11

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>25</u> x 2 = <u>50.0</u> FAC species <u>20</u> x 3 = <u>60.0</u> FACU species <u>60</u> x 4 = <u>240.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>105</u> (A) <u>350.0</u> (B) Prevalence Index = B/A = <u>3.30</u>
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Anthoxanthum odoratum</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Dichanthelium clandestinum</u>	<u>20</u>	<u>No</u>	<u>FAC</u>	
3. <u>Carex bromoides</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
4. <u>Solidago canadensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5. <u>Poa annua</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>105</u> = Total Cover				
50% of total cover: <u>53</u> 20% of total cover: <u>21</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Indicators:
No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes _____ No X

SOIL

Sampling Point: U-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	100					Clay loam	
8 - 12	10YR 5/3	80	10YR 4/6	20	Concen	M	Clay	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	--

Remarks:



Soil



N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-12
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 20
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.56710 Long: -81.04563 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-12

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)																
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)																
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)																
4. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30.0</u></td> </tr> <tr> <td>FACW species <u>35</u></td> <td>x 2 = <u>70.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>340.0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.70</u></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>30</u>	x 1 = <u>30.0</u>	FACW species <u>35</u>	x 2 = <u>70.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>60</u>	x 4 = <u>240.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>125</u> (A)	<u>340.0</u> (B)	Prevalence Index = B/A = <u>2.70</u>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species <u>30</u>	x 1 = <u>30.0</u>																			
FACW species <u>35</u>	x 2 = <u>70.0</u>																			
FAC species <u>0</u>	x 3 = <u>0.0</u>																			
FACU species <u>60</u>	x 4 = <u>240.0</u>																			
UPL species <u>0</u>	x 5 = <u>0.0</u>																			
Column Totals: <u>125</u> (A)	<u>340.0</u> (B)																			
Prevalence Index = B/A = <u>2.70</u>																				
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>Yes</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Juncus effusus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
2. <u>Carex stipata</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Impatiens capensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Onoclea sensibilis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Anthoxanthum odoratum</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>63</u> 20% of total cover: <u>25</u>																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	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? Yes <u>X</u> No _____																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: W-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	100					Clay loam	
8 - 18	10YR 3/2	70	10YR 5/8	25	Concen	M	Clay loam	
-			2.5YR 3/6	5	Concen	M		
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



Soil



W



N



E



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-12
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 15
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.56705 Long: -81.04560 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-12

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>118</u></td> <td>x 4 = <u>472.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>118</u> (A)</td> <td><u>472.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>118</u>	x 4 = <u>472.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>118</u> (A)	<u>472.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>118</u>	x 4 = <u>472.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>118</u> (A)	<u>472.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Alliaria petiolata</u>	<u>3</u>	No	FACU															
2. <u>Rosa multiflora</u>	<u>10</u>	No	FACU															
3. <u>Dactylis glomerata</u>	<u>70</u>	Yes	FACU															
4. <u>Barbarea vulgaris</u>	<u>5</u>	No	FACU															
5. <u>Allium canadense</u>	<u>10</u>	No	FACU															
6. <u>Elymus villosus</u>	<u>20</u>	No	FACU															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>118</u> = Total Cover																		
50% of total cover: <u>59</u> 20% of total cover: <u>24</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: U-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/3	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



Soil



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-13
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.56441 Long: -81.04548 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-13

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. <u>Salix interior</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60.0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>145</u> (A)</td> <td><u>280.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.90</u>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60.0</u>	FACW species <u>60</u>	x 2 = <u>120.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>25</u>	x 4 = <u>100.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>145</u> (A)	<u>280.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>60</u>	x 1 = <u>60.0</u>																	
FACW species <u>60</u>	x 2 = <u>120.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>25</u>	x 4 = <u>100.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>145</u> (A)	<u>280.0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>15</u>																		
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Carex stipata</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>															
2. <u>Juncus effusus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>															
3. <u>Solidago canadensis</u>	<u>20</u>	<u>No</u>	<u>FACU</u>															
4. <u>Impatiens capensis</u>	<u>15</u>	<u>No</u>	<u>FACW</u>															
5. <u>Phalaris arundinacea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>															
6. <u>Galium aparine</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: <u>58</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
 Yes 1 - Rapid Test for Hydrophytic Vegetation
 Yes 2 - Dominance Test is >50%
 Yes 3 - Prevalence Index is ≤3.0¹
 No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes X No _____

SOIL

Sampling Point: W-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	Gley 1 5/10Y	80	7.5YR 3/4	20	Concen	PL,M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
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Remarks:



Soil



W



N



E



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/02/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-13
 Investigator(s): JFW Section, Township, Range: S19 T14N R5W
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.56444 Long: -81.04547 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Upland WP-13

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>100</u>	x 4 = <u>400.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100</u> (A)	<u>400.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>100</u>	x 4 = <u>400.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100</u> (A)	<u>400.0</u> (B)																	
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>No</u> 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1.	<u>Anthoxanthum odoratum</u>	<u>40</u>	Yes		FACU													
2.	<u>Schedonorus arundinaceus</u>	<u>40</u>	Yes		FACU													
3.	<u>Alliaria petiolata</u>	<u>5</u>	No		FACU													
4.	<u>Taraxacum officinale</u>	<u>5</u>	No		FACU													
5.	<u>Rosa multiflora</u>	<u>5</u>	No		FACU													
6.	<u>Erigeron annuus</u>	<u>5</u>	No		FACU													
7.																		
8.																		
9.																		
10.																		
11.																		
_____ = Total Cover																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1.																		
2.																		
3.																		
4.																		
5.																		
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: U-JFW-0502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Clay</u> Depth (inches): <u>16.0</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:



N



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-14
 Investigator(s): JBL Section, Township, Range: S23 T13N R5W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.54578 Long: -81.04694 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM swale along proposed access road. wetland drains to the south outside of the survey boundary	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: multiple primary and secondary hydrology indicators present. Sample point meets all 3 wetland criteria.	

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

Sampling Point: Wetland WP-14

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. <u>Rosa multiflora</u>	<u>10</u>		<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30.0</u></td> </tr> <tr> <td>FACW species <u>85</u></td> <td>x 2 = <u>170.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>240.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.90</u>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30.0</u>	FACW species <u>85</u>	x 2 = <u>170.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>10</u>	x 4 = <u>40.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>125</u> (A)	<u>240.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>30</u>	x 1 = <u>30.0</u>																	
FACW species <u>85</u>	x 2 = <u>170.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>10</u>	x 4 = <u>40.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>125</u> (A)	<u>240.0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>5</u>																		
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Juncus effusus</u>	<u>60</u>		<u>FACW</u>															
2. <u>Scirpus atrovirens</u>	<u>30</u>		<u>OBL</u>															
3. <u>Onoclea sensibilis</u>	<u>25</u>		<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: <u>58</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.) hydrophytic vegetation indicators present as dominance test > 50% and PI < 3				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

SOIL

Sampling Point: W-JBL-052224-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 5/2	70	10YR 3/6	30	Concen	PL,M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-14
 Investigator(s): JBL Section, Township, Range: S23 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 4
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.54582 Long: -81.04694 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: upland adjacent to PEM wetland swale along access	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present. sample point does not meet any of the wetland criteria	

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

Sampling Point: Upland WP-14

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Schedonorus arundinaceus</u>	<u>80</u>		<u>FACU</u>	
2. <u>Glechoma hederacea</u>	<u>10</u>		<u>FACU</u>	
3. <u>Plantago lanceolata</u>	<u>10</u>		<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.) no hydric soil indicators present				

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0.0</u>
FACW species	<u>0</u>	x 2 =	<u>0.0</u>
FAC species	<u>0</u>	x 3 =	<u>0.0</u>
FACU species	<u>90</u>	x 4 =	<u>360.0</u>
UPL species	<u>10</u>	x 5 =	<u>50.0</u>
Column Totals:	<u>100</u> (A)		<u>410.0</u> (B)
Prevalence Index = B/A = <u>4.10</u>			

Hydrophytic Vegetation Indicators:

No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes _____ No X

SOIL

Sampling Point: U-JBL-052224-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 5/4	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Clay
 Depth (inches): 12.0

Hydric Soil Present? Yes No

Remarks:



Soil



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/23/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-15
 Investigator(s): JBL Section, Township, Range: S23 T13N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.53175 Long: -81.04656 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland in vally bottom adjacent to perennial North Fork McGuire Creek. Small PEM swale delineated on hillside north of the valley bottom.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: multiple primary and secondary indicators present. Wetland adjacent to perennial stream	

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

Sampling Point: Wetland WP-15

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40.0</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>200.0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.70</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40.0</u>	FACW species <u>80</u>	x 2 = <u>160.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>120</u> (A)	<u>200.0</u> (B)	Prevalence Index = B/A = <u>1.70</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>40</u>	x 1 = <u>40.0</u>																			
FACW species <u>80</u>	x 2 = <u>160.0</u>																			
FAC species <u>0</u>	x 3 = <u>0.0</u>																			
FACU species <u>0</u>	x 4 = <u>0.0</u>																			
UPL species <u>0</u>	x 5 = <u>0.0</u>																			
Column Totals: <u>120</u> (A)	<u>200.0</u> (B)																			
Prevalence Index = B/A = <u>1.70</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Phalaris arundinacea</u>	<u>80</u>		<u>FACW</u>																	
2. <u>Symplocarpus foetidus</u>	<u>40</u>		<u>OBL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>60</u> 20% of total cover: <u>24</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)				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.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.) hydrophytic vegetation indicators present as dominance test >50% and PI less than 3				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

SOIL

Sampling Point: W-JBL-052324-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 5/1	95	10YR 4/4	5	Concen	M	Clay loam	Muck
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
---	---

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/23/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-15
 Investigator(s): JBL Section, Township, Range: S23 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.53170 Long: -81.04654 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Coshocton-Berks (s6121) NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: upland for valley bottom PEM wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present. Sample point does not meet any of the wetland criteria.	

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

Sampling Point: Upland WP-15

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>5</u> x 2 = <u>10.0</u> FAC species <u>50</u> x 3 = <u>150.0</u> FACU species <u>65</u> x 4 = <u>260.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>120</u> (A) <u>420.0</u> (B) Prevalence Index = B/A = <u>3.50</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Ostrya virginiana</u>	<u>5</u>		<u>FACU</u>	
2. <u>Rosa multiflora</u>	<u>10</u>		<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>8</u>		20% of total cover: <u>8</u>		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Anthoxanthum odoratum</u>	<u>50</u>		<u>FACU</u>	
2. <u>Juncus tenuis</u>	<u>20</u>		<u>FAC</u>	
3. <u>Carex cristatella</u>	<u>5</u>		<u>FACW</u>	
4. <u>Dichanthelium clandestinum</u>	<u>30</u>		<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.) no hydrophytic vegetation indicators present.				

Hydrophytic Vegetation Indicators:
No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes _____ No X

SOIL

Sampling Point: U-JBL-052324-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 3/4	100					Silty loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 6.0

Hydric Soil Present? Yes No

Remarks:



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-16
 Investigator(s): MJA Section, Township, Range: S22 T13N R5W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.52336 Long: -81.04706 Datum: NAD 83
 Soil Map Unit Name: Or: Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland in floodplain of tributary to North Fork McGuire Creek. Former ID: W-BCR-5/23/2018-5	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-16

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Herb Stratum (Plot size: <u>5</u>)				
1.	<u>Phalaris arundinacea</u>	<u>70</u>		<u>FACW</u>
2.	<u>Symplocarpus foetidus</u>	<u>15</u>		<u>OBL</u>
3.	<u>Galium aparine</u>	<u>15</u>		<u>FACU</u>
4.	<u>Urtica dioica</u>	<u>10</u>		<u>FACU</u>
5.	<u>Typha latifolia</u>	<u>15</u>		<u>OBL</u>
6.	<u>Onoclea sensibilis</u>	<u>5</u>		<u>FACW</u>
7.				
8.				
9.				
10.				
11.				
_____ <u>130</u> = Total Cover				
50% of total cover: <u>65</u>				20% of total cover: <u>26</u>
Woody Vine Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
_____ = Total Cover				
50% of total cover: _____				20% of total cover: _____
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:		
OBL species	<u>30</u>		x 1 =	<u>30.0</u>	
FACW species	<u>75</u>		x 2 =	<u>150.0</u>	
FAC species	<u>0</u>		x 3 =	<u>0.0</u>	
FACU species	<u>25</u>		x 4 =	<u>100.0</u>	
UPL species	<u>0</u>		x 5 =	<u>0.0</u>	
Column Totals:	<u>130</u>	(A)		<u>280.0</u>	(B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

Yes 1 - Rapid Test for Hydrophytic Vegetation

Yes 2 - Dominance Test is >50%

Yes 3 - Prevalence Index is ≤3.0¹

No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes X No _____

SOIL

Sampling Point: W-MJA-052224-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	95	7.5YR 4/6	5	Concen	M	Silty loam	
8 - 16	10YR 4/2	95	7.5YR 4/6	5	Concen	PL	Silty loam	Sandy
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



Soil



N



E



S



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-16
 Investigator(s): MJA Section, Township, Range: S22 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 10-20
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.52347 Long: -81.04715 Datum: NAD 83
 Soil Map Unit Name: WmC: Westmoreland-Coshocton silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point on slope in routinely maintained powerline ROW.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Upland WP-16

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>25</u>	x 2 = <u>50.0</u>
_____ = Total Cover				FAC species <u>25</u>	x 3 = <u>75.0</u>
50% of total cover: _____ 20% of total cover: _____				FACU species <u>85</u>	x 4 = <u>340.0</u>
Sapling/Shrub Stratum (Plot size: <u>15</u>)				UPL species <u>0</u>	x 5 = <u>0.0</u>
1. <u>Rubus allegheniensis</u>	<u>30</u>	_____	<u>FACU</u>	Column Totals: <u>135</u>	(A) <u>465.0</u> (B)
2. <u>Rosa multiflora</u>	<u>15</u>	_____	<u>FACU</u>	Prevalence Index = B/A = <u>3.40</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	<u>No</u> 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
6. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
_____ = Total Cover				Definitions of Four Vegetation Strata:	
50% of total cover: <u>23</u> 20% of total cover: <u>23</u>				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot size: <u>5</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
1. <u>Dichanthelium clandestinum</u>	<u>25</u>	_____	<u>FAC</u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2. <u>Phalaris arundinacea</u>	<u>25</u>	_____	<u>FACW</u>	Woody vine – All woody vines greater than 3.28 ft in height.	
3. <u>Anthoxanthum odoratum</u>	<u>20</u>	_____	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
4. <u>Dactylis glomerata</u>	<u>15</u>	_____	<u>FACU</u>		
5. <u>Achillea millefolium</u>	<u>5</u>	_____	<u>FACU</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: U-MJA-052224-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/3	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



Soil



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-17
 Investigator(s): MJA Section, Township, Range: S22 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 2-5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.51495 Long: -81.04739 Datum: NAD 83
 Soil Map Unit Name: WmC: Westmoreland-Coshocton silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland on slope adjacent to ag field. Likely receives seep water. Former ID: W-BCR-5/23/2018-4	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Wetland WP-17

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Phalaris arundinacea</u>	<u>100</u>		<u>FACW</u>	
2. <u>Agrimonia parviflora</u>	<u>1</u>		<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>51</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No _____ Problematic Hydrophytic Vegetation ¹ (Explain)				
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.				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-MJA-052224-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	95	7.5YR 4/6	5	Concen	PL	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-18
 Investigator(s): MJA Section, Township, Range: S22 T13N R5W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 3-5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.51680 Long: -81.04729 Datum: NAD 83
 Soil Map Unit Name: WmC: Westmoreland-Coshocton silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Hillside seep. No RPW connection. Former ID: W-BCR-5/23/2018-3.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Wetland WP-18

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align: center;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:20%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>85</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>85.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>65</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>130.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>15</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>45.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>165</u></td> <td>(A)</td> <td style="text-align: center;"><u>260.0</u> (B)</td> </tr> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>1.60</u></p>		Total % Cover of:		Multiply by:	OBL species	<u>85</u>	x 1 =	<u>85.0</u>	FACW species	<u>65</u>	x 2 =	<u>130.0</u>	FAC species	<u>15</u>	x 3 =	<u>45.0</u>	FACU species	<u>0</u>	x 4 =	<u>0.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>165</u>	(A)	<u>260.0</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>85</u>	x 1 =	<u>85.0</u>																													
FACW species	<u>65</u>	x 2 =	<u>130.0</u>																													
FAC species	<u>15</u>	x 3 =	<u>45.0</u>																													
FACU species	<u>0</u>	x 4 =	<u>0.0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																													
Column Totals:	<u>165</u>	(A)	<u>260.0</u> (B)																													
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																												
1. <u>Carex lurida</u>	<u>30</u>	_____	OBL																													
2. <u>Glyceria striata</u>	<u>55</u>	_____	OBL																													
3. <u>Juncus effusus</u>	<u>30</u>	_____	FACW																													
4. <u>Dichanthelium clandestinum</u>	<u>15</u>	_____	FAC																													
5. <u>Onoclea sensibilis</u>	<u>20</u>	_____	FACW																													
6. <u>Impatiens capensis</u>	<u>15</u>	_____	FACW																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
10. _____	_____	_____	_____																													
11. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: <u>83</u> 20% of total cover: <u>33</u>																																
Woody Vine Stratum (Plot size: <u>30</u>)				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.																												
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
_____ = Total Cover																																
50% of total cover: _____ 20% of total cover: _____																																
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																												

SOIL

Sampling Point: W-MJA-052224-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 5	10YR 4/2	95	7.5YR 4/6	5	Concen	M,PL	Silty clay loam	
5 - 16	10YR 4/2	55	7.5YR 5/4	45	Concen	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



Soil



S



W



N



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-17,18
 Investigator(s): MJA Section, Township, Range: S22 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 5-15
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.51720 Long: -81.04733 Datum: NAD 83
 Soil Map Unit Name: WmC: Westmoreland-Coshocton silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point in routinely maintained powerline ROW.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Upland WP-17,18

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0.0</u> FACW species <u>70</u> x 2 = <u>140.0</u> FAC species <u>10</u> x 3 = <u>30.0</u> FACU species <u>130</u> x 4 = <u>520.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>210</u> (A) <u>690.0</u> (B) Prevalence Index = B/A = <u>3.30</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>Rubus allegheniensis</u>	<u>50</u>	_____	<u>FACU</u>	
2. <u>Rosa multiflora</u>	<u>20</u>	_____	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>35</u>		20% of total cover: <u>35</u>		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Vernonia angustifolia</u>	<u>10</u>	_____	<u>FACU</u>	
2. <u>Toxicodendron radicans</u>	<u>10</u>	_____	<u>FAC</u>	
3. <u>Phalaris arundinacea</u>	<u>15</u>	_____	<u>FACW</u>	
4. <u>Solidago canadensis</u>	<u>30</u>	_____	<u>FACU</u>	
5. <u>Agrimonia parviflora</u>	<u>40</u>	_____	<u>FACW</u>	
6. <u>Juncus effusus</u>	<u>15</u>	_____	<u>FACW</u>	
7. <u>Anthoxanthum odoratum</u>	<u>20</u>	_____	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>70</u>		20% of total cover: <u>28</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Indicators:
No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes _____ No X

SOIL

Sampling Point: U-MJA-052224-03.04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/3	98	7.5YR 4/6	2	Concen	M,PL	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u> X </u>
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Remarks:



Soil



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-19
 Investigator(s): MJA Section, Township, Range: S21 T13N R5W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.51498 Long: -81.04744 Datum: NAD 83
 Soil Map Unit Name: WmC: Westmoreland-Coshocton silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Newly delineated wetland fringe around pond.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: Wetland WP-19

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65.0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>215.0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.50</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65.0</u>	FACW species <u>75</u>	x 2 = <u>150.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>140</u> (A)	<u>215.0</u> (B)	Prevalence Index = B/A = <u>1.50</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>65</u>	x 1 = <u>65.0</u>																			
FACW species <u>75</u>	x 2 = <u>150.0</u>																			
FAC species <u>0</u>	x 3 = <u>0.0</u>																			
FACU species <u>0</u>	x 4 = <u>0.0</u>																			
UPL species <u>0</u>	x 5 = <u>0.0</u>																			
Column Totals: <u>140</u> (A)	<u>215.0</u> (B)																			
Prevalence Index = B/A = <u>1.50</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Phalaris arundinacea</u>	<u>60</u>		<u>FACW</u>																	
2. <u>Impatiens capensis</u>	<u>15</u>		<u>FACW</u>																	
3. <u>Carex crinita</u>	<u>25</u>		<u>OBL</u>																	
4. <u>Glyceria striata</u>	<u>40</u>		<u>OBL</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>70</u> 20% of total cover: <u>28</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)				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.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

SOIL

Sampling Point: W-MJA-052224-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 4/2	95	5YR 4/6	5	Concen	PL,M	Silty loam	Slightly sandy
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u> X </u> No _____
---	---

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-19
 Investigator(s): MJA Section, Township, Range: S21 T13N R5W
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): Convex Slope (%): 5-8
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.51493 Long: -81.04739 Datum: NAD 83
 Soil Map Unit Name: WmC: Westmoreland-Coshocton silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland point in routinely maintained ROW.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: Upland WP-19

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30.0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90.0</u></td> </tr> <tr> <td>FACU species <u>140</u></td> <td>x 4 = <u>560.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>185</u> (A)</td> <td><u>680.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.70</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>15</u>	x 2 = <u>30.0</u>	FAC species <u>30</u>	x 3 = <u>90.0</u>	FACU species <u>140</u>	x 4 = <u>560.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>185</u> (A)	<u>680.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>15</u>	x 2 = <u>30.0</u>																	
FAC species <u>30</u>	x 3 = <u>90.0</u>																	
FACU species <u>140</u>	x 4 = <u>560.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>185</u> (A)	<u>680.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: No <u>1</u> - Rapid Test for Hydrophytic Vegetation No <u>2</u> - Dominance Test is >50% No <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Anthoxanthum odoratum</u>	<u>35</u>	Yes	FACU															
2. <u>Poa pratensis</u>	<u>65</u>	Yes	FACU															
3. <u>Dichanthelium clandestinum</u>	<u>30</u>	No	FAC															
4. <u>Phalaris arundinacea</u>	<u>15</u>	No	FACW															
5. <u>Rubus allegheniensis</u>	<u>10</u>	No	FACU															
6. <u>Dennstaedtia punctilobula</u>	<u>15</u>	No	FACU															
7. <u>Trifolium repens</u>	<u>15</u>	No	FACU															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>185</u> = Total Cover																		
50% of total cover: <u>93</u> 20% of total cover: <u>37</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														

SOIL

Sampling Point: U-MJA-0522

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 3/4	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



Soil



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-20
 Investigator(s): JBL Section, Township, Range: S21 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 8
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.50295 Long: -81.04895 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Hillside seep wetland on potential access road. French rain observed downgradient of wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>7</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 multiple primary and secondary hydrology indicators present. Sample point meets all three wetland criteria.

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

Sampling Point: Wetland WP-20

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>45</u> x 1 = <u>45.0</u> FACW species <u>60</u> x 2 = <u>120.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>5</u> x 4 = <u>20.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>110</u> (A) <u>185.0</u> (B) Prevalence Index = B/A = <u>1.70</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Salix interior</u>	<u>5</u>		<u>FACW</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
50% of total cover: <u>3</u>		20% of total cover: <u>3</u>			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Typha latifolia</u>	<u>30</u>		<u>OBL</u>	Hydrophytic Vegetation Indicators: Yes <u>1</u> - Rapid Test for Hydrophytic Vegetation Yes <u>2</u> - Dominance Test is >50% Yes <u>3</u> - Prevalence Index is ≤3.0 ¹ No <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Juncus effusus</u>	<u>20</u>		<u>FACW</u>		
3. <u>Solidago gigantea</u>	<u>30</u>		<u>FACW</u>		
4. <u>Eupatorium perfoliatum</u>	<u>5</u>		<u>FACW</u>		
5. <u>Carex hystericina</u>	<u>10</u>		<u>OBL</u>		
6. <u>Carex vulpinoidea</u>	<u>5</u>		<u>OBL</u>		
7. <u>Dipsacus fullonum</u>	<u>5</u>		<u>FACU</u>		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>			
_____ = Total Cover					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
50% of total cover: _____		20% of total cover: _____			
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)				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 indicators present as dominance test >50% and PI less than 3					
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	

SOIL

Sampling Point: W-JBL-052224-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	90	5YR 4/6	10	Concen	PL	Silty clay	
6 - 14	Gley 1 4/N	80	7.5YR 5/6	20	Concen	M	Clay	Clay and shale
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Shale or gravel
 Depth (inches): 14.0

Hydric Soil Present? Yes X No

Remarks:



Soil



N



E



S



W

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-20
 Investigator(s): JBL Section, Township, Range: S21 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 8
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.50292 Long: -81.04889 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland near hillside seep on access road	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 None observed

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

Sampling Point: Upland WP-20

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																																	
2. _____	_____	_____	_____																																		
3. _____	_____	_____	_____																																		
4. _____	_____	_____	_____																																		
5. _____	_____	_____	_____																																		
6. _____	_____	_____	_____																																		
7. _____	_____	_____	_____																																		
_____ = Total Cover				Prevalence Index worksheet:																																	
50% of total cover: _____ 20% of total cover: _____																																					
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																																					
1. _____	_____	_____	_____		<table style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">Total % Cover of:</td> <td colspan="2" style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>15</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>30.0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>105</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>420.0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0.0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>120</u></td> <td>(A)</td> <td style="text-align: center;"><u>450.0</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <u>3.80</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0.0</u>	FACW species	<u>15</u>	x 2 =	<u>30.0</u>	FAC species	<u>0</u>	x 3 =	<u>0.0</u>	FACU species	<u>105</u>	x 4 =	<u>420.0</u>	UPL species	<u>0</u>	x 5 =	<u>0.0</u>	Column Totals:	<u>120</u>	(A)	<u>450.0</u> (B)	Prevalence Index = B/A = <u>3.80</u>			
Total % Cover of:		Multiply by:																																			
OBL species	<u>0</u>	x 1 =	<u>0.0</u>																																		
FACW species	<u>15</u>	x 2 =	<u>30.0</u>																																		
FAC species	<u>0</u>	x 3 =	<u>0.0</u>																																		
FACU species	<u>105</u>	x 4 =	<u>420.0</u>																																		
UPL species	<u>0</u>	x 5 =	<u>0.0</u>																																		
Column Totals:	<u>120</u>	(A)	<u>450.0</u> (B)																																		
Prevalence Index = B/A = <u>3.80</u>																																					
2. _____	_____	_____	_____																																		
3. _____	_____	_____	_____																																		
4. _____	_____	_____	_____																																		
5. _____	_____	_____	_____																																		
6. _____	_____	_____	_____																																		
7. _____	_____	_____	_____																																		
8. _____	_____	_____	_____																																		
9. _____	_____	_____	_____																																		
_____ = Total Cover				Hydrophytic Vegetation Indicators:																																	
50% of total cover: _____ 20% of total cover: _____																																					
<u>Herb Stratum</u> (Plot size: <u>5</u>)																																					
1. <u>Solidago canadensis</u>	<u>40</u>	_____	<u>FACU</u>		___ 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. <u>Phleum pratense</u>	<u>35</u>	_____	<u>FACU</u>																																		
3. <u>Erigeron annuus</u>	<u>10</u>	_____	<u>FACU</u>																																		
4. <u>Eupatorium perfoliatum</u>	<u>10</u>	_____	<u>FACW</u>																																		
5. <u>Carex annectens</u>	<u>5</u>	_____	<u>FACW</u>																																		
6. <u>Anthoxanthum odoratum</u>	<u>15</u>	_____	<u>FACU</u>																																		
7. <u>Taraxacum officinale</u>	<u>5</u>	_____	<u>FACU</u>																																		
8. _____	_____	_____	_____																																		
9. _____	_____	_____	_____																																		
10. _____	_____	_____	_____																																		
_____ = Total Cover				Definitions of Four Vegetation Strata:																																	
50% of total cover: <u>60</u> 20% of total cover: <u>24</u>																																					
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																																					
1. _____	_____	_____	_____		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.																																
2. _____	_____	_____	_____																																		
3. _____	_____	_____	_____																																		
4. _____	_____	_____	_____																																		
5. _____	_____	_____	_____																																		
_____ = Total Cover																																					
50% of total cover: _____ 20% of total cover: _____																																					
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																																					
Remarks: (Include photo numbers here or on a separate sheet.)																																					
hydrophytic vegetation indicators not present																																					

SOIL

Sampling Point: U-JBL-052224-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/3	97	10YR 4/6	3	Concen	M	Sandy loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

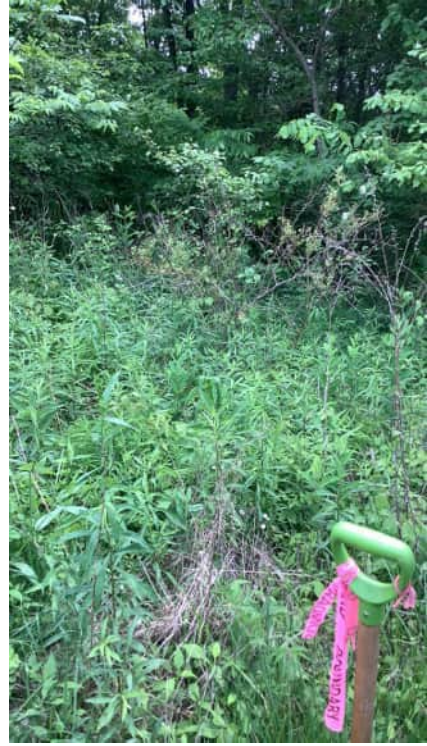
³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Gravel/rock</u> Depth (inches): <u>8.0</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

Remarks:



N



E



S



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-21
 Investigator(s): JBL Section, Township, Range: S21 T13N R5W
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.50228 Long: -81.04805 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: PEM adjacent to perennial Long Creek and ephemeral stream to the south.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>11</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>15</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 multiple primary and secondary hydrology indicators present. Wetland drains to perennial Long Creek, located adjacent to the wetland

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

Sampling Point: Wetland WP-21

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____		20% of total cover: _____																
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15.0</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>195.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.90</u>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15.0</u>	FACW species <u>90</u>	x 2 = <u>180.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>105</u> (A)	<u>195.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15</u>	x 1 = <u>15.0</u>																	
FACW species <u>90</u>	x 2 = <u>180.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>105</u> (A)	<u>195.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____		20% of total cover: _____																
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <i>Phalaris arundinacea</i>	80	Yes	FACW															
2. <i>Symplocarpus foetidus</i>	5	No	OBL															
3. <i>Typha latifolia</i>	10	No	OBL															
4. <i>Impatiens capensis</i>	10	No	FACW															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>																
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____		20% of total cover: _____																
Remarks: (Include photo numbers here or on a separate sheet.)																		
hydrophytic vegetation indicators present as dominance test >50% and PI < 3																		
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Hydrophytic Vegetation Present?</td> <td style="width:20%; text-align: center;">Yes <u>X</u></td> <td style="width:20%; text-align: center;">No _____</td> </tr> </table>				Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____												
Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____																

SOIL

Sampling Point: W-JBL-0522

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 4/1	90	7.5YR 4/4	10	Concen	PL,M	Clay loam	
10 - 18	10YR 5/2	80	7.5YR 4/4	20	Concen	M	Sandy loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-21
 Investigator(s): JBL Section, Township, Range: S21 T13N R5W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 0
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.50229 Long: -81.04811 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland on mowed path adjacent to the west of the wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present	

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

Sampling Point: Upland WP-21

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Trifolium pratense</u>	<u>40</u>		<u>FACU</u>	
2. <u>Glechoma hederacea</u>	<u>15</u>		<u>FACU</u>	
3. <u>Plantago lanceolata</u>	<u>15</u>		<u>UPL</u>	
4. <u>Poa annua</u>	<u>30</u>		<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.) Mowed vegetation. hydrophytic vegetation indicators not present.				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species 0 x 1 = 0.0
 FACW species 0 x 2 = 0.0
 FAC species 0 x 3 = 0.0
 FACU species 85 x 4 = 340.0
 UPL species 15 x 5 = 75.0
 Column Totals: 100 (A) 415.0 (B)
 Prevalence Index = B/A = 4.20

Hydrophytic Vegetation Indicators:
 No 1 - Rapid Test for Hydrophytic Vegetation
 No 2 - Dominance Test is >50%
 No 3 - Prevalence Index is ≤3.0¹
 No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes _____ No X

SOIL

Sampling Point: U-JBL-052224-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 4/2	85	5YR 3/4	15	Concen	M	Clay loam	
6 - 12	10YR 4/4	90	10R 2.5/1	10	Concen	PL	Sand	
12 - 16	10YR 4/1	80	10YR 3/6	20	Concen	PL,M	Sandy clay	
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Rock</u> Depth (inches): <u>16.0</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

Remarks:



NE



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-22
 Investigator(s): JBL Section, Township, Range: S20 T13N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.48830 Long: -81.04868 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland on hillside and valley bottom adjacent to McQuire creek.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>15</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>9</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 multiple primary and secondary hydrology indicators present. Wetland adjacent to perennial McGuire Creek.

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

Sampling Point: Wetland WP-22

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>55</u></td> <td>x 1 = <u>55.0</u></td> </tr> <tr> <td>FACW species <u>45</u></td> <td>x 2 = <u>90.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>145.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.50</u>	Total % Cover of:	Multiply by:	OBL species <u>55</u>	x 1 = <u>55.0</u>	FACW species <u>45</u>	x 2 = <u>90.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>0</u>	x 4 = <u>0.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100</u> (A)	<u>145.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>55</u>	x 1 = <u>55.0</u>																	
FACW species <u>45</u>	x 2 = <u>90.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100</u> (A)	<u>145.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation Yes ___ 2 - Dominance Test is >50% Yes ___ 3 - Prevalence Index is ≤3.0 ¹ No ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No ___ Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Typha latifolia</u>	<u>50</u>		<u>OBL</u>															
2. <u>Phalaris arundinacea</u>	<u>40</u>		<u>FACW</u>															
3. <u>Impatiens capensis</u>	<u>5</u>		<u>FACW</u>															
4. <u>Carex lurida</u>	<u>5</u>		<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present?																		
Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.) hydrophytic vegetation indicators present as dominance test >50% and PI less than 3																		

SOIL

Sampling Point: W-JBL-052224-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 5	10YR 4/2	98	10YR 3/4	2	Concen	PL,M	Clay loam	
5 - 19	10YR 5/1	90	10YR 3/6	10	Concen	PL,M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-22
 Investigator(s): JBL Section, Township, Range: S20 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.48828 Long: -81.04857 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland 02 east of wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 None observed. Sample point does not meet any of the 3 wetland criteria

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

Sampling Point: Upland WP-22

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>460.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0.0</u>	FACW species <u>0</u>	x 2 = <u>0.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>115</u>	x 4 = <u>460.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>115</u> (A)	<u>460.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0</u>	x 2 = <u>0.0</u>																	
FAC species <u>0</u>	x 3 = <u>0.0</u>																	
FACU species <u>115</u>	x 4 = <u>460.0</u>																	
UPL species <u>0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>115</u> (A)	<u>460.0</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <u>No</u> 2 - Dominance Test is >50% <u>No</u> 3 - Prevalence Index is ≤3.0 ¹ <u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Anthoxanthum odoratum</u>	<u>50</u>		<u>FACU</u>															
2. <u>Solidago altissima</u>	<u>30</u>		<u>FACU</u>															
3. <u>Cirsium arvense</u>	<u>25</u>		<u>FACU</u>															
4. <u>Rubus argutus</u>	<u>10</u>		<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>115</u> = Total Cover																		
50% of total cover: <u>58</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)				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.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														
hydrophytic vegetation indicators not present																		

SOIL

Sampling Point: U-JBL-052224-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/3	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



N



E



S



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-23
 Investigator(s): JBL Section, Township, Range: S19 T13N R5W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 4
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.48203 Long: -81.04898 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland in swale in ag field. Wetland extends outside survey area to the west.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 multiple primary and secondary hydrology indicators present. Wetland drains downgradient to the west and outside of the survey boundary

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

Sampling Point: Wetland WP-23

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65.0</u></td> </tr> <tr> <td>FACW species <u>45</u></td> <td>x 2 = <u>90.0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20.0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>175.0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.50</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65.0</u>	FACW species <u>45</u>	x 2 = <u>90.0</u>	FAC species <u>0</u>	x 3 = <u>0.0</u>	FACU species <u>5</u>	x 4 = <u>20.0</u>	UPL species <u>0</u>	x 5 = <u>0.0</u>	Column Totals: <u>115</u> (A)	<u>175.0</u> (B)	Prevalence Index = B/A = <u>1.50</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>65</u>	x 1 = <u>65.0</u>																			
FACW species <u>45</u>	x 2 = <u>90.0</u>																			
FAC species <u>0</u>	x 3 = <u>0.0</u>																			
FACU species <u>5</u>	x 4 = <u>20.0</u>																			
UPL species <u>0</u>	x 5 = <u>0.0</u>																			
Column Totals: <u>115</u> (A)	<u>175.0</u> (B)																			
Prevalence Index = B/A = <u>1.50</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Typha latifolia</u>	<u>40</u>		<u>OBL</u>																	
2. <u>Poa palustris</u>	<u>25</u>		<u>FACW</u>																	
3. <u>Carex lurida</u>	<u>25</u>		<u>OBL</u>																	
4. <u>Juncus effusus</u>	<u>10</u>		<u>FACW</u>																	
5. <u>Persicaria pensylvanica</u>	<u>10</u>		<u>FACW</u>																	
6. <u>Schedonorus arundinaceus</u>	<u>5</u>		<u>FACU</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: <u>58</u> 20% of total cover: <u>23</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)				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.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (Include photo numbers here or on a separate sheet.)																				
hydrophytic vegetation indicators present as dominance test>50% and PI is less than 3																				
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:70%;">Hydrophytic Vegetation Present?</td> <td style="width:10%; text-align: center;">Yes <u>X</u></td> <td style="width:20%; text-align: center;">No _____</td> </tr> </table>				Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____														
Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____																		

SOIL

Sampling Point: W-JBL-052224-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 19	10YR 4/1	70	10YR 4/4	30	Concen	PL,M	Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/22/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-23
 Investigator(s): JBL Section, Township, Range: S19 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.48209 Long: -81.04897 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: upland area adjacent to PEM wetland swale	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present	

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

Sampling Point: Upland WP-23

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Solidago canadensis</u>	<u>50</u>		<u>FACU</u>	
2. <u>Schedonorus arundinaceus</u>	<u>50</u>		<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.) hydrophytic vegetation indicators not present				

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0.0</u>
FACW species	<u>0</u>	x 2 =	<u>0.0</u>
FAC species	<u>0</u>	x 3 =	<u>0.0</u>
FACU species	<u>100</u>	x 4 =	<u>400.0</u>
UPL species	<u>0</u>	x 5 =	<u>0.0</u>
Column Totals:	<u>100</u> (A)		<u>400.0</u> (B)
Prevalence Index = B/A = <u>4.00</u>			

Hydrophytic Vegetation Indicators:

No 1 - Rapid Test for Hydrophytic Vegetation
No 2 - Dominance Test is >50%
No 3 - Prevalence Index is ≤3.0¹
No 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
No Problematic Hydrophytic Vegetation¹ (Explain)

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 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? Yes _____ No X

SOIL

Sampling Point: U-JBL-052224-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/3	95	10YR 4/6	5	Concen	M	Sandy clay	with gravel
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



Soil



E

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/21/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-24
 Investigator(s): JBL Section, Township, Range: S19 T13N R5W
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.47500 Long: -81.04928 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland adjacent to stream	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 multiple primary and secondary hydrology indicators present

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

Sampling Point: Wetland WP-24

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10.0</u> FACW species <u>100</u> x 2 = <u>200.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>5</u> x 4 = <u>20.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>115</u> (A) <u>230.0</u> (B) Prevalence Index = B/A = <u>2.00</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>Rubus allegheniensis</u>	<u>5</u>	_____	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>3</u>		20% of total cover: <u>3</u>		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Phalaris arundinacea</u>	<u>50</u>	_____	<u>FACW</u>	
2. <u>Solidago gigantea</u>	<u>30</u>	_____	<u>FACW</u>	
3. <u>Carex lurida</u>	<u>10</u>	_____	<u>OBL</u>	
4. <u>Poa palustris</u>	<u>10</u>	_____	<u>FACW</u>	
5. <u>Impatiens capensis</u>	<u>10</u>	_____	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>55</u>		20% of total cover: <u>22</u>		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.)				
sample point meets hydrophytic vegetation indicators as dominance test is greater than 50% and PI is less than 3				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

SOIL

Sampling Point: W-JBL-052124-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 19	10YR 4/2	90	7.5YR 3/4	10	Concen	PL,M	Sandy clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/21/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-24
 Investigator(s): JFW Section, Township, Range: S19 T13N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.47489 Long: -81.04946 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland 1 next to access road. Sample point does not meet wetland criteria.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: None observed	

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

Sampling Point: Upland WP-24

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____ Multiply by:	
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
_____ = Total Cover				FAC species <u>15</u>	x 3 = <u>45.0</u>
50% of total cover: _____ 20% of total cover: _____				FACU species <u>141</u>	x 4 = <u>564.0</u>
Sapling/Shrub Stratum (Plot size: <u>15</u>)				UPL species <u>0</u>	x 5 = <u>0.0</u>
1. <u>Rubus allegheniensis</u>	<u>20</u>	_____	<u>FACU</u>	Column Totals: <u>156</u>	(A) <u>609.0</u> (B)
2. <u>Rubus idaeus</u>	<u>15</u>	_____	<u>FAC</u>	Prevalence Index = B/A = <u>3.90</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	___ 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
6. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>35</u> = Total Cover				Definitions of Four Vegetation Strata:	
50% of total cover: <u>18</u> 20% of total cover: <u>18</u>				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot size: <u>5</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
1. <u>Dactylis glomerata</u>	<u>45</u>	_____	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2. <u>Schedonorus arundinaceus</u>	<u>46</u>	_____	<u>FACU</u>	Woody vine – All woody vines greater than 3.28 ft in height.	
3. <u>Solidago altissima</u>	<u>30</u>	_____	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>121</u> = Total Cover					
50% of total cover: <u>61</u> 20% of total cover: <u>24</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					
hydrophytic vegetation indicators not present					

SOIL

Sampling Point: U-JBL-052124-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/4	100					Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



E



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/21/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-25
 Investigator(s): JFW Section, Township, Range: S24 T12N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.47142 Long: -81.04951 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM wetland adjacent to int stream 03. Old culvert washed out connecting wetland to western wetland area. Wetland continues outside survey area to the east and west	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: multiple primary and secondary hydrology indicators present	

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

Sampling Point: Wetland WP-25

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>40</u> x 1 = <u>40.0</u> FACW species <u>65</u> x 2 = <u>130.0</u> FAC species <u>0</u> x 3 = <u>0.0</u> FACU species <u>0</u> x 4 = <u>0.0</u> UPL species <u>0</u> x 5 = <u>0.0</u> Column Totals: <u>105</u> (A) <u>170.0</u> (B) Prevalence Index = B/A = <u>1.60</u>	
50% of total cover: _____		20% of total cover: _____			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation Yes ___ 2 - Dominance Test is >50% Yes ___ 3 - Prevalence Index is ≤3.0 ¹ No ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) No ___ Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____		20% of total cover: _____			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Poa palustris</u>	<u>60</u>		<u>FACW</u>		
2. <u>Acorus americanus</u>	<u>20</u>		<u>OBL</u>		
3. <u>Carex stipata</u>	<u>10</u>		<u>OBL</u>		
4. <u>Leersia oryzoides</u>	<u>10</u>		<u>OBL</u>		
5. <u>Juncus effusus</u>	<u>5</u>		<u>FACW</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				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.	
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
50% of total cover: _____		20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.) sample point meets hydrophytic vegetation indicators as dominance test is greater than 50% and PI less than 3					

SOIL

Sampling Point: W-JBL-052124-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 19	10YR 5/2	95	10R 3/4	5	Concen	PL,M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/21/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-25
 Investigator(s): JBL Section, Township, Range: S24 T12N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.47135 Long: -81.04957 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland 02 south of wetland. Sample point does not meet any wetland criteria	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: None observed	

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

Sampling Point: Upland WP-25

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____ Multiply by:	
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
_____ = Total Cover				FAC species <u>35</u>	x 3 = <u>105.0</u>
50% of total cover: _____ 20% of total cover: _____				FACU species <u>100</u>	x 4 = <u>400.0</u>
Sapling/Shrub Stratum (Plot size: <u>15</u>)				UPL species <u>0</u>	x 5 = <u>0.0</u>
1. <u>Rubus allegheniensis</u>	<u>25</u>	_____	<u>FACU</u>	Column Totals: <u>135</u>	(A) <u>505.0</u> (B)
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.70</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	___ 1 - Rapid Test for Hydrophytic Vegetation	
5. _____	_____	_____	_____	<u>No</u> 2 - Dominance Test is >50%	
6. _____	_____	_____	_____	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
7. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>25</u> = Total Cover				Definitions of Four Vegetation Strata:	
50% of total cover: <u>13</u> 20% of total cover: <u>13</u>				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Herb Stratum (Plot size: <u>5</u>)				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
1. <u>Solidago altissima</u>	<u>40</u>	_____	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
2. <u>Dichanthelium clandestinum</u>	<u>35</u>	_____	<u>FAC</u>	Woody vine – All woody vines greater than 3.28 ft in height.	
3. <u>Anthoxanthum odoratum</u>	<u>10</u>	_____	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
4. <u>Schedonorus arundinaceus</u>	<u>25</u>	_____	<u>FACU</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>110</u> = Total Cover					
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					
sample point does not meet any hydrophytic vegetation indicators					

SOIL

Sampling Point: U-JBL-052124-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/4	100					Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



N



E



S



S

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/21/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland WP-26
 Investigator(s): JFW Section, Township, Range: S24 T12N R5W
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.46944 Long: -81.04941 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: PEM wetland in valley bottom and hillside seep area. Adjacent to int stream	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>3</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Multiple primary and secondary indicators present. Sample point meets all three wetland criteria.

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

Sampling Point: Wetland WP-26

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				Total % Cover of: _____ Multiply by: _____
1. <u>Rosa multiflora</u>	<u>5</u>		<u>FACU</u>	OBL species <u>40</u> x 1 = <u>40.0</u>
2. _____	_____	_____	_____	FACW species <u>50</u> x 2 = <u>100.0</u>
3. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0.0</u>
4. _____	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20.0</u>
5. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0.0</u>
6. _____	_____	_____	_____	Column Totals: <u>95</u> (A) <u>160.0</u> (B)
7. _____	_____	_____	_____	Prevalence Index = B/A = <u>1.70</u>
8. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
9. _____	_____	_____	_____	
_____ = Total Cover				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>3</u>		20% of total cover: <u>3</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5</u>)				Definitions of Four Vegetation Strata:
1. <u>Scirpus cyperinus</u>	<u>25</u>		<u>FACW</u>	
2. <u>Typha latifolia</u>	<u>30</u>		<u>OBL</u>	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.
3. <u>Onoclea sensibilis</u>	<u>25</u>		<u>FACW</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
4. <u>Symplocarpus foetidus</u>	<u>5</u>		<u>OBL</u>	
5. <u>Carex lurida</u>	<u>5</u>		<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>45</u>		20% of total cover: <u>18</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
Remarks: (Include photo numbers here or on a separate sheet.) sample point meets hydrophytic vegetation indicators as dominance test is greater than 50% and PI less than 3				

SOIL

Sampling Point: W-JBL-052124-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 4/2	90	10YR 4/6	10	Concen	PL,M	Sandy loam	
8 - 19	10YR 5/1	80	10YR 5/6	20	Concen	PL,M	Sandy clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:



N



E



S



W



Soil

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Washington-Polo Road - Phase 2 City/County: Carroll County Sampling Date: 05/21/24
 Applicant/Owner: FirstEnergy State: OH Sampling Point: Upland WP-26
 Investigator(s): JBL Section, Township, Range: S24 T12N R5W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 10
 Subregion (LRR or MLRA): LRR N MLRA 124 Lat: 40.46928 Long: -81.04928 Datum: NAD 83
 Soil Map Unit Name: Westmoreland-Rigley-Gilpin-Coshocton (s6128) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology 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? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland on east side of PEM wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: None	

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

Sampling Point: Upland WP-26

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u>	(B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u>	(A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____	Multiply by: _____
6. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0.0</u>
7. _____	_____	_____	_____	FACW species <u>0</u>	x 2 = <u>0.0</u>
8. _____	_____	_____	_____	FAC species <u>35</u>	x 3 = <u>105.0</u>
9. _____	_____	_____	_____	FACU species <u>95</u>	x 4 = <u>380.0</u>
10. _____	_____	_____	_____	UPL species <u>25</u>	x 5 = <u>125.0</u>
11. _____	_____	_____	_____	Column Totals: <u>155</u>	(A) <u>610.0</u> (B)
_____ = Total Cover				Prevalence Index = B/A = <u>3.90</u>	
50% of total cover: _____ 20% of total cover: _____				Hydrophytic Vegetation Indicators:	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				___ 1 - Rapid Test for Hydrophytic Vegetation	
1. <u>Rosa multiflora</u>	<u>40</u>		<u>FACU</u>	<u>No</u> 2 - Dominance Test is >50%	
2. <u>Rubus allegheniensis</u>	<u>20</u>		<u>FACU</u>	<u>No</u> 3 - Prevalence Index is ≤3.0 ¹	
3. _____	_____	_____	_____	<u>No</u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	_____	_____	_____	<u>No</u> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	_____	_____	_____	Definitions of Four Vegetation Strata:	
7. _____	_____	_____	_____	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8. _____	_____	_____	_____	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
9. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
10. _____	_____	_____	_____	Woody vine – All woody vines greater than 3.28 ft in height.	
11. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
50% of total cover: <u>30</u> 20% of total cover: <u>30</u>					
<u>Herb Stratum</u> (Plot size: <u>5</u>)					
1. <u>Dichanthelium clandestinum</u>	<u>35</u>		<u>FAC</u>		
2. <u>Solidago canadensis</u>	<u>35</u>		<u>FACU</u>		
3. <u>Daucus carota</u>	<u>25</u>		<u>UPL</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>48</u> 20% of total cover: <u>19</u>					
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: U-JBL-052124-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/4	100					Sandy clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:



N



E



S



Soil

Appendix C
OEPA ORAM Data Forms

Site: Wetland WP-01	Rater(s): MJA	Date: 2024-05-22
----------------------------	----------------------	-------------------------

4.0

4.0

Metric 1. Wetland Area (size).

- 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)

10.0

14.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

18.0

32.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|--|--|-------------------------------|---|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input checked="" type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input checked="" type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

10.5

42.5

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.
- | | | | | | | | | | | | | | |
|---|---|---------------------------------|---|----------------------------------|---|--|--|--|-----------------------------------|---|---|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

42.5

subtotal this page

Site: Wetland WP-01	Rater(s): MJA	Date: 2024-05-22
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42.5

subtotal first page

0.0

42.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

42.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 2 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

42.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-02	Rater(s): JFW	Date: 2024-05-01
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2.0

2.0

Metric 1. Wetland Area (size).

- 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)

12.0

14.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

10.5

24.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

8.5

33.0

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)
 - 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 removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

33.0

subtotal this page

Site: Wetland WP-02	Rater(s): JFW	Date: 2024-05-01
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33.0

subtotal first page

0.0	33.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3.0	36.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 1 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

36.0	GRAND TOTAL (max 100 pts)
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Site: Wetland WP-03	Rater(s): JFW	Date: 2024-05-01
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

12.0

12.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

11.5

23.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|---|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

9.5

33.0

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.
- | | | | | | | | | | | | | | |
|---|--|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

33.0

subtotal this page

Site: Wetland WP-03	Rater(s): JFW	Date: 2024-05-01
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33.0

subtotal first page

-10.0	23.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0	22.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.0

GRAND TOTAL (max 100 pts)

Site: Wetland WP-04	Rater(s): JFW	Date: 2024-05-01
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1.0

1.0

Metric 1. Wetland Area (size).

- 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)

8.0

9.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

18.0

27.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|--|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

9.5

36.5

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.
- | | | | | | | | | | | | | | |
|---|---|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

36.5

subtotal this page

Site: Wetland WP-04	Rater(s): JFW	Date: 2024-05-01
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36.5

subtotal first page

0.0

36.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2.0

34.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-05	Rater(s): JFW	Date: 2024-04-30
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2.0

2.0

Metric 1. Wetland Area (size).

- 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)

7.0

9.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

12.0

21.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

12.0

33.0

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)
 - 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 removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

33.0

subtotal this page

Site: Wetland WP-05	Rater(s): JFW	Date: 2024-04-30
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33.0

subtotal first page

0.0	33.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0	35.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 2 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35.0	GRAND TOTAL (max 100 pts)
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Site: Wetland WP-06	Rater(s): JFW	Date: 2024-04-30
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

8.0

8.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

9.0

17.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|---|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

9.5

26.5

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.
- | | | | | | | | | | | | | | |
|---|--|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

26.5

subtotal this page

Site: Wetland WP-06	Rater(s): JFW	Date: 2024-04-30
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26.5

subtotal first page

0.0

26.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

26.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-07	Rater(s): JFW	Date: 2024-04-30
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

12.0

12.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

8.0

20.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other 2 track

7.5

27.5

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)
 - 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 removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

27.5

subtotal this page

Site: Wetland WP-07	Rater(s): JFW	Date: 2024-04-30
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27.5

subtotal first page

0.0	27.5
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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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0	27.5
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Metric 6. Plant communities, interspersions, microtopography.

max 20 pts. subtotal 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27.5	GRAND TOTAL (max 100 pts)
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Site: Wetland WP-08	Rater(s): JFW	Date: 2024-05-01
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1.0

1.0

Metric 1. Wetland Area (size).

- 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)

11.0

12.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

11.5

23.5

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

11.0

34.5

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.
- | | | | | | | | | | | | | | |
|--|---|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

34.5

subtotal this page

Site: Wetland WP-08	Rater(s): JFW	Date: 2024-05-01
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34.5

subtotal first page

0.0

34.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1.0

35.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-09	Rater(s): JFW	Date: 2024-05-02
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

8.0

19.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|--|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

9.5

28.5

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.
- | | | | | | | | | | | | | | |
|---|---|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width: 50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

28.5

subtotal this page

Site: Wetland WP-09	Rater(s): JFW	Date: 2024-05-02
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28.5

subtotal first page

0.0

28.5

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

28.5

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-10	Rater(s): JFW	Date: 2024-05-01
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0.0

0.0

Metric 1. Wetland Area (size).

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)

8.0

8.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

11.0

19.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9.5

28.5

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

28.5

subtotal this page

Site: Wetland WP-10	Rater(s): JFW	Date: 2024-05-01
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28.5

subtotal first page

0.0

28.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-4.0

24.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-11	Rater(s): JFW	Date: 2024-05-02
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

7.0

7.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

8.0

15.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

5.0

20.0

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)
 - 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 removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

20.0

subtotal this page

Site: Wetland WP-11	Rater(s): JFW	Date: 2024-05-02
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20.0

subtotal first page

0.0

20.0

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

22.0

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.0

GRAND TOTAL (max 100 pts)

Site: Wetland WP-12	Rater(s): JFW	Date: 2024-05-02
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

9.0

20.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

7.0

27.0

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.
- | | | | | | | | | | | | | | |
|--|--|---------------------------------|--|----------------------------------|---|--|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

27.0

subtotal this page

Site: Wetland WP-12	Rater(s): JFW	Date: 2024-05-02
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27.0

subtotal first page

0.0	27.0
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0	29.0
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29.0	GRAND TOTAL (max 100 pts)
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Site: Wetland WP-13	Rater(s): JFW	Date: 2024-05-02
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

9.0

20.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | |
|---|---|---|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input checked="" type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input | <ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____ |
|---|---|---|

7.0

27.0

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.
- | | | |
|--|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |
|--|--|--|

27.0

subtotal this page

Site: Wetland WP-13	Rater(s): JFW	Date: 2024-05-02
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27.0

subtotal first page

0.0 27.0

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0 27.0

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27.0

GRAND TOTAL (max 100 pts)

Site: Wetland WP-14	Rater(s): JBL	Date: 2024-05-22
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

2.0

2.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

7.0

9.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.

 - High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

 - 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

 - Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input

- point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

7.5

16.5

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)
 - 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 removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

16.5

subtotal this page

Site: Wetland WP-14	Rater(s): JBL	Date: 2024-05-22
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16.5

subtotal first page

0.0

16.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1.0

17.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- X Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

17.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-15	Rater(s): JBL	Date: 2024-05-23
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4.0

4.0

Metric 1. Wetland Area (size).

- 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)

10.0

14.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

19.0

33.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|---|---|---|-------------------------------|---|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

10.5

43.5

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.
- | | | | | | | | | | | | | | |
|---|---|--|---|----------------------------------|---|--|---|---|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation | <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

43.5

subtotal this page

Site: Wetland WP-15	Rater(s): JBL	Date: 2024-05-23
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43.5

subtotal first page

0.0	43.5
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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-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0	42.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- X Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

42.5	GRAND TOTAL (max 100 pts)
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Site: Wetland WP-16	Rater(s): MJA	Date: 2024-05-22
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3.0

3.0

Metric 1. Wetland Area (size).

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)

8.0

11.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

17.0

28.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

10.5

38.5

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

38.5

subtotal this page

Site: Wetland WP-16	Rater(s): MJA	Date: 2024-05-22
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38.5

subtotal first page

0.0

38.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1.0

39.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 3 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

39.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-17	Rater(s): MJA	Date: 2024-05-22
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0.0

0.0

Metric 1. Wetland Area (size).

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)

3.0

3.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

13.0

16.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

<input type="checkbox"/> ditch <input checked="" type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____
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7.0

23.0

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/> mowing <input type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input checked="" type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment
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23.0

subtotal this page

Site: Wetland WP-17	Rater(s): MJA	Date: 2024-05-22
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23.0

subtotal first page

0.0	23.0
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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-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-4.0	19.0
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

19.0	GRAND TOTAL (max 100 pts)
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Site: Wetland WP-18	Rater(s): MJA	Date: 2024-05-22
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0.0

0.0

Metric 1. Wetland Area (size).

- 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)

4.0

4.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

14.0

18.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|--|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> tile</td> <td style="padding: 2px;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input checked="" type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input checked="" type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

8.5

26.5

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.
- | | | | | | | | | | | | | | |
|---|--|---------------------------------|---|----------------------------------|---|--|--|--|-----------------------------------|---|---|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input checked="" type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p style="text-align: center; font-weight: bold;">Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

26.5

subtotal this page

Site: Wetland WP-18	Rater(s): MJA	Date: 2024-05-22
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26.5

subtotal first page

0.0

26.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

28.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-19	Rater(s): MJA	Date: 2024-05-22
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0.0

0.0

Metric 1. Wetland Area (size).

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)

11.0

11.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

11.0

22.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <small>Wetland fringe around artificial pond.</small>

7.5

29.5

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29.5

subtotal this page

Site: Wetland WP-19	Rater(s): MJA	Date: 2024-05-22
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29.5

subtotal first page

0.0

29.5

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0

28.5

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-20	Rater(s): JBL	Date: 2024-05-22
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0.0

0.0

Metric 1. Wetland Area (size).

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)

5.0

5.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

9.0

14.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

<input type="checkbox"/> ditch <input checked="" type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input checked="" type="checkbox"/> other French drain
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6.0

20.0

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input checked="" type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input checked="" type="checkbox"/> toxic pollutants	<input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment
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20.0

subtotal this page

Site: Wetland WP-20	Rater(s): JBL	Date: 2024-05-22
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20.0

subtotal first page

0.0

20.0

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

22.0

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.0

GRAND TOTAL (max 100 pts)

Site: Wetland WP-21	Rater(s): JBL	Date: 2024-05-22
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2.0

2.0

Metric 1. Wetland Area (size).

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)

6.0

8.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

13.5

21.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6.0

27.5

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

27.5

subtotal this page

Site: Wetland WP-21	Rater(s): JBL	Date: 2024-05-22
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27.5

subtotal first page

0.0

27.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

27.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- X Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-22	Rater(s): JBL	Date: 2024-05-22
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2.0

2.0

Metric 1. Wetland Area (size).

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)

7.0

9.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

13.5

22.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input checked="" type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7.0

29.5

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29.5

subtotal this page

Site: Wetland WP-22	Rater(s): JBL	Date: 2024-05-22
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29.5

subtotal first page

0.0

29.5

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-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

31.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- X Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- X Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-23	Rater(s): JBL	Date: 2024-05-22
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1.0

1.0

Metric 1. Wetland Area (size).

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)

3.0

4.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

6.0

10.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<ul style="list-style-type: none"> <input type="checkbox"/> ditch <input checked="" type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input 	<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

7.0

17.0

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input checked="" type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input checked="" type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input checked="" type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

17.0

subtotal this page

Site: Wetland WP-23	Rater(s): JBL	Date: 2024-05-22
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17.0

subtotal first page

0.0

17.0

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0.0

17.0

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- X None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- X Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

17.0

GRAND TOTAL (max 100 pts)

Site: Wetland WP-24	Rater(s): JBL	Date: 2024-05-21
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1.0

1.0

Metric 1. Wetland Area (size).

- 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)

7.0

8.0

Metric 2. Upland buffers and surrounding land use.

- 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)
- 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), shrubland, 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)

11.0

19.0

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 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)
- 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 hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|--|--------------------------------|---|--|---|-------------------------------|---|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input checked="" type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> ditch</td> <td style="width:50%; padding: 2px;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> tile</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> filling/grading</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> dike</td> <td style="padding: 2px;"><input checked="" type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> weir</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> stormwater input</td> <td style="padding: 2px;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

7.5

26.5

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.
- | | | | | | | | | | | | | | |
|---|---|---------------------------------|---|----------------------------------|---|--|--|---|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input checked="" type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;"><input type="checkbox"/> mowing</td> <td style="width:50%; padding: 2px;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> grazing</td> <td style="padding: 2px;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> clearcutting</td> <td style="padding: 2px;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/> selective cutting</td> <td style="padding: 2px;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> woody debris removal</td> <td style="padding: 2px;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/> toxic pollutants</td> <td style="padding: 2px;"><input type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

26.5

subtotal this page

Site: Wetland WP-24	Rater(s): JBL	Date: 2024-05-21
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26.5

subtotal first page

0.0

26.5

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 wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1.0

25.5

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- X Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

25.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-25	Rater(s): JBL	Date: 2024-05-21
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2.0

2.0

Metric 1. Wetland Area (size).

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)

8.0

10.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

7.0

17.0

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9.5

26.5

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

26.5

subtotal this page

Site: Wetland WP-25	Rater(s): JBL	Date: 2024-05-21
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26.5

subtotal first page

0.0

26.5

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2.0

28.5

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- X Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.5

GRAND TOTAL (max 100 pts)

Site: Wetland WP-26	Rater(s): JBL	Date: 2024-05-21
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2.0

2.0

Metric 1. Wetland Area (size).

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)

7.0

9.0

Metric 2. Upland buffers and surrounding land use.

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)

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), shrubland, 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)

14.5

23.5

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface 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)

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)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7.5

31.0

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)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

31.0

subtotal this page

Site: Wetland WP-26	Rater(s): JBL	Date: 2024-05-21
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31.0

subtotal first page

0.0	31.0
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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-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3.0	34.0
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- X Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- X Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
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
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
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
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
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34.0

GRAND TOTAL (max 100 pts)

Appendix D
QHEI Stream Data Forms

Stream & Location: Stream WP-02 Washington-Polo Road - Phase 2 RM: Date:

S-JFW-050124-01 Scorers Full Name & Affiliation: JFW Jacobs

River Code: STORET #: Lat./Long.: 40.61582 / -81.04271 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR /SLABS [10], BOULDER [9], COBBLE [8], GRAVEL [7], SAND [6], BEDROCK [5]. OTHER TYPES: HARDPAN [4], DETRITUS [3], MUCK [2], SILT [2], ARTIFICIAL [0]. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], HARDPAN [0], SANDSTONE [0], RIP/RAP [0], LACUSTURINE [0], SHALE [-1], COAL FINES [-2]. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], FREE [1], EXTENSIVE [-2], MODERATE [-1], NORMAL [0], NONE [1]. NUMBER OF BEST TYPES: 4 or more [2], 3 or less [0]. Comments

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts. AMOUNT: EXTENSIVE >75% [11], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1]. Comments

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1]. Comments

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0]. Comments

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], VERY FAST [1], FAST [1], MODERATE [1], SLOW [1], INTERSTITIAL [-1], INTERMITTENT [-2], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact. Comments

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). NO RIFFLE [metric=0]. RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE (e.g., Cobble, Boulder) [2], MOD. STABLE (e.g., Large Gravel) [1], UNSTABLE (e.g., Fine Gravel, Sand) [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1]. Comments

6] GRADIENT (16.6 ft/mi) DRAINAGE AREA (1.98 mi^2) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. %POOL: 0, %GLIDE: 85, %RUN: 10, %RIFFLE: 5. Gradient Maximum 10.0

A) SAMPLED REACH

Check ALL that apply

- METHOD**
- BOAT
 - WADE
 - L. LINE
 - OTHER
- STAGE**
- 1st -sample pass- 2nd
- HIGH
 - UP
 - NORMAL
 - LOW
 - DRY

DISTANCE

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

61
meters

CANOPY

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

CLARITY

- 1st --sample pass-- 2nd
- < 20 cm
 - 20-<40 cm
 - 40-70 cm
 - > 70 cm/ CTB
 - SECCHI DEPTH

- 1st _____ cm
- pass
- 2nd _____ cm

C) RECREATION

AREA DEPTH
POOL: >100ft² >3ft

B) AESTHETICS

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

D) MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG - SUCCESSION - OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING - BEDLOAD - STABLE
- ARMoured / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

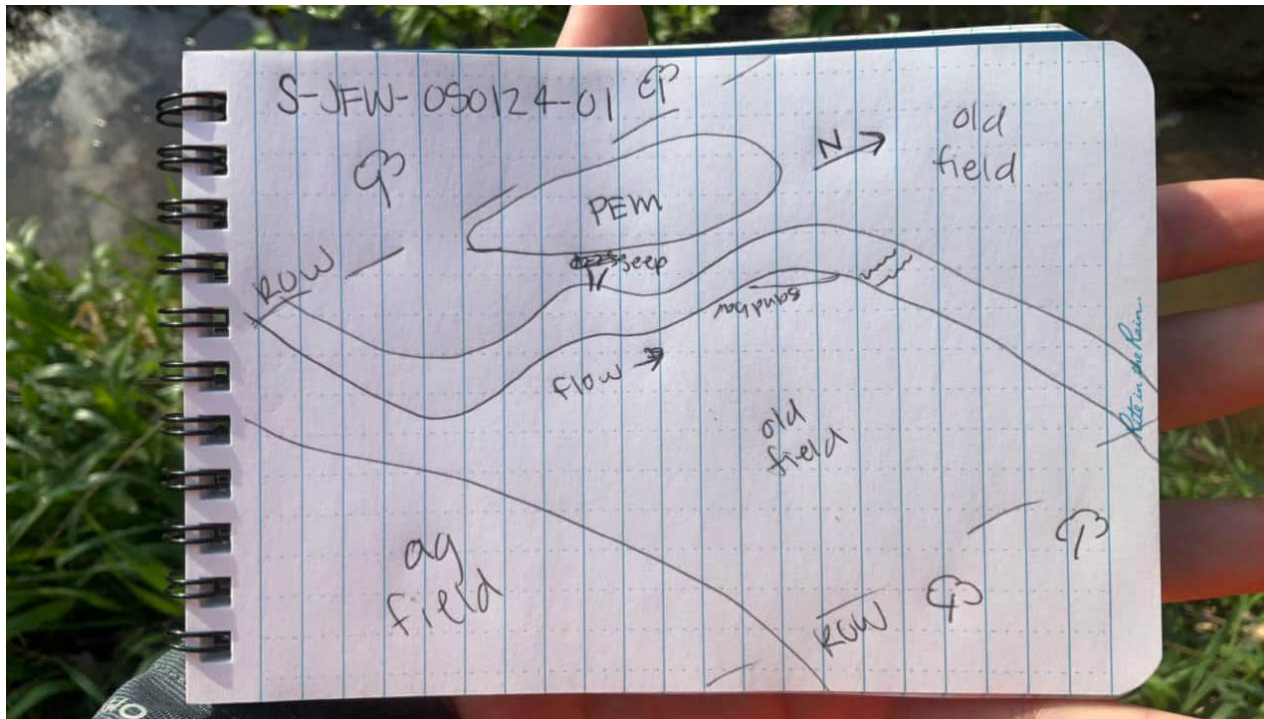
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs - CONSTRUCTION - SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H2O / TILE / H2O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

- \bar{x} width 5
- \bar{x} depth
- max. depth 12
- \bar{x} bankfull width 8
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing: Stream WP-02





Upstream



Downstream



Substrate

Stream & Location: Stream WP-03 Washington-Polo Road - Phase 2 RM: Date: 4/30/24

S-JFW-043024-04 Scorers Full Name & Affiliation: JFW Jacobs

River Code: STORET #: Lat./Long.: 40.61400 / -81.04299 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR /SLABS [10], BOULDER [9], COBBLE [8], GRAVEL [7], SAND [6], BEDROCK [5]. OTHER TYPES: HARDPAN [4], DETRITUS [3], MUCK [2], SILT [2], ARTIFICIAL [0]. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], SANDSTONE [0], RIP/RAP [0], LACUSTURINE [0], SHALE [-1], COAL FINES [-2]. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], FREE [1], EXTENSIVE [-2], MODERATE [-1], NORMAL [0], NONE [1]. NUMBER OF BEST TYPES: 4 or more [2], 3 or less [0]. Comments

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts. AMOUNT: EXTENSIVE >75% [11], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1]. Comments

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1]. Comments

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0]. Comments

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], VERY FAST [1], FAST [1], MODERATE [1], SLOW [1], INTERSTITIAL [-1], INTERMITTENT [-2], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact. Comments

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). NO RIFFLE [metric=0]. RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE (e.g., Cobble, Boulder) [2], MOD. STABLE (e.g., Large Gravel) [1], UNSTABLE (e.g., Fine Gravel, Sand) [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1]. Comments

6] GRADIENT (16.7 ft/mi) DRAINAGE AREA (1.97 mi^2) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. %POOL: 0, %GLIDE: 100, %RUN: 0, %RIFFLE: 0. Gradient Maximum 10.0

A) SAMPLED REACH

Check ALL that apply

METHOD

BOAT 1st -sample pass- 2nd

WADE HIGH

L. LINE UP

OTHER NORMAL

LOW

DRY

DISTANCE

0.5 Km

0.2 Km

0.15 Km

0.12 Km

OTHER

61 meters

CANOPY

> 85%- OPEN

55%-<85%

30%-<55%

10%-<30%

<10%- CLOSED

CLARITY

1st --sample pass-- 2nd

< 20 cm

20-<40 cm

40-70 cm

> 70 cm/ CTB

SECCHI DEPTH

1st _____ cm

pass

2nd _____ cm

C) RECREATION

AREA DEPTH

POOL: >100ft² >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

B) AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG - SUCCESSION - OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING - BEDLOAD - STABLE

ARMoured / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs - CONSTRUCTION - SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H2O / TILE / H2O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

\bar{x} width ³

\bar{x} depth

max. depth ⁵

\bar{x} bankfull width

bankfull \bar{x} depth

W/D ratio

bankfull max. depth

floodprone x^2 width

entrench. ratio

Legacy Tree:

Stream Drawing: Stream WP-03





Upstream



Downstream



Substrate

Stream & Location: Stream WP-12 Washington-Polo Road - Phase 2 RM: Date: 5/1/24

S-JFW-050124-04 Scorers Full Name & Affiliation: JFW Jacobs

River Code: STORET #: Lat./Long.: 40.57270 / -81.04600 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR /SLABS [10], BOULDER [9], COBBLE [8], GRAVEL [7], SAND [6], BEDROCK [5]. OTHER TYPES: HARDPAN [4], DETRITUS [3], MUCK [2], SILT [2], ARTIFICIAL [0]. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], SANDSTONE [0], RIP/RAP [0], LACUSTURINE [0], SHALE [-1], COAL FINES [-2]. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], FREE [1], EXTENSIVE [-2], MODERATE [-1], NORMAL [0], NONE [1]. NUMBER OF BEST TYPES: 4 or more [2], 3 or less [0]. Comments

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts. AMOUNT: EXTENSIVE >75% [11], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1]. Comments

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1]. Comments

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0]. Comments

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], VERY FAST [1], FAST [1], MODERATE [1], SLOW [1], INTERSTITIAL [-1], INTERMITTENT [-2], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact. Comments

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). NO RIFFLE [metric=0]. RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE [2], MOD. STABLE [1], UNSTABLE [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1]. Comments

6] GRADIENT (19.0 ft/mi) DRAINAGE AREA (1.82 mi^2) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. %POOL: 20, %GLIDE: 0, %RUN: 70, %RIFFLE: 10. Gradient Maximum 10. Comments

A) SAMPLED REACH

Check ALL that apply

METHOD

BOAT 1st-sample pass- 2nd

WADE HIGH

L. LINE UP

OTHER NORMAL

LOW

DRY

DISTANCE

0.5 Km

0.2 Km

0.15 Km

0.12 Km

OTHER

61

meters

CANOPY

> 85%- OPEN

55%-<85%

30%-<55%

10%-<30%

<10%- CLOSED

CLARITY

1st --sample pass-- 2nd

< 20 cm

20-<40 cm

40-70 cm

> 70 cm/ CTB

SECCHI DEPTH

1st _____ cm

pass

2nd _____ cm

C) RECREATION

AREA DEPTH

POOL: >100ft² >3ft

B) AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG - SUCCESSION - OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING - BEDLOAD - STABLE

ARMoured / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs - CONSTRUCTION - SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H2O / TILE / H2O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

\bar{x} width ³

\bar{x} depth

max. depth ²⁴

\bar{x} bankfull width ⁵

bankfull \bar{x} depth

W/D ratio

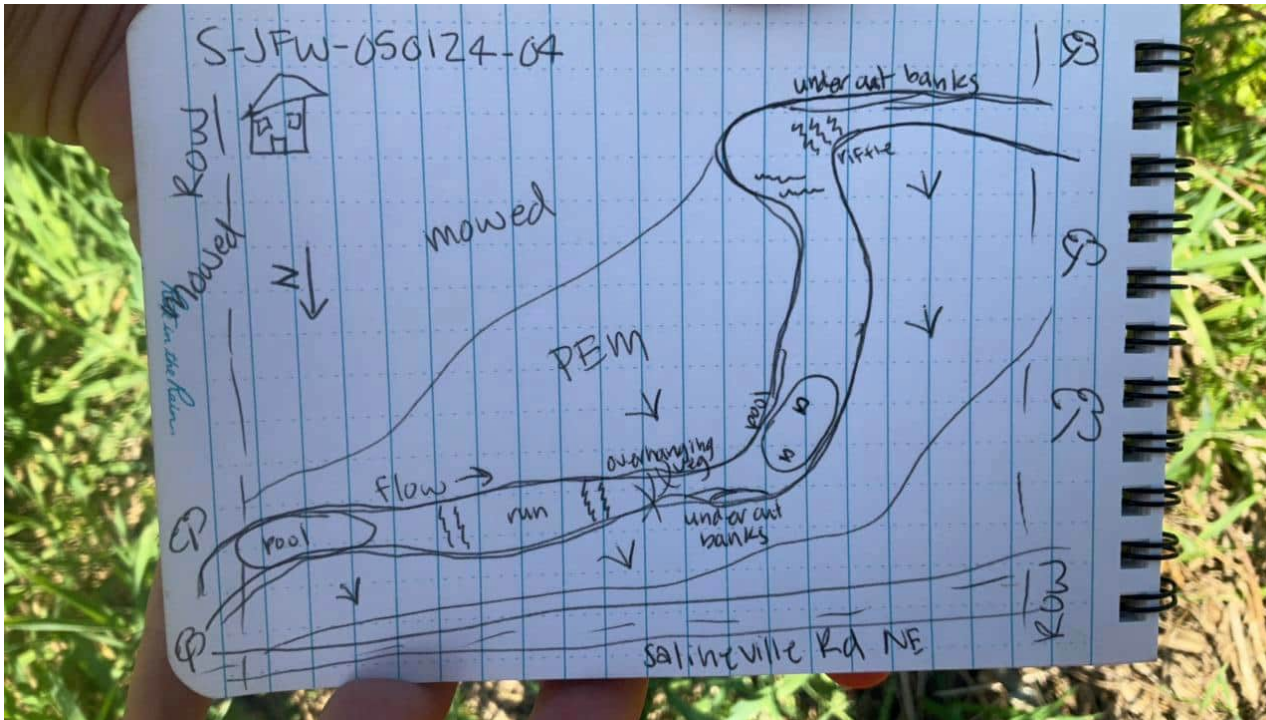
bankfull max. depth

floodprone x^2 width

entrench. ratio

Legacy Tree:

Stream Drawing: Stream WP-12





Downstream



Upstream



Substrate

Stream & Location: Stream WP-21 Washington-Polo Road - Phase 2 RM: Date:

S-JBL-052324-03 Scorers Full Name & Affiliation: JBL Jacobs

River Code: STORET #: Lat./Long.: 40.53206 / -81.04654 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present Check ONE (Or 2 & average)

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for types like BLDR/SLABS, HARDPAN, LIMESTONE, etc. and a score of 3.0.

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts

Instream Cover assessment table with categories: UNDERCAT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes a score of 9.0.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE. Includes a score of 13.0.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Includes a score of 10.0.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment table with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes for depth and width ranges. Includes a score of 4.0.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

Functional Riffles assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for riffle characteristics. Includes a score of 1.0.

6] GRADIENT (66.0 ft/mi) DRAINAGE AREA (2.0 mi^2) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6] %POOL: 20 %GLIDE: 50 %RUN: 25 %RIFFLE: 5 Gradient Maximum 10. Includes a score of 4.0.

A) SAMPLED REACH

Check ALL that apply

METHOD	STAGE
<input type="checkbox"/> BOAT	1st -sample pass- 2nd
<input checked="" type="checkbox"/> WADE	<input type="checkbox"/> HIGH <input type="checkbox"/>
<input type="checkbox"/> L. LINE	<input type="checkbox"/> UP <input type="checkbox"/>
<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> NORMAL <input type="checkbox"/>
	<input type="checkbox"/> LOW <input type="checkbox"/>
	<input type="checkbox"/> DRY <input type="checkbox"/>

DISTANCE

0.5 Km
 0.2 Km
 0.15 Km
 0.12 Km
 OTHER
 61
 meters

CLARITY

1st --sample pass-- 2nd

< 20 cm

20-<40 cm

40-70 cm

> 70 cm/ CTB

SECCHI DEPTH

CANOPY

1st _____ cm

pass

2nd _____ cm

> 85%- OPEN

55%-<85%

30%-<55%

10%-<30%

<10%- CLOSED

C) RECREATION

AREA DEPTH

POOL: >100ft² >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

B) AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG - SUCCESSION - OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING - BEDLOAD - STABLE

ARMoured / SLUMPS

ISLANDS / SCoured

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs - CONSTRUCTION - SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H2O / TILE / H2O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

\bar{x} width 7

\bar{x} depth

max. depth 16

\bar{x} bankfull width 11

bankfull \bar{x} depth

W/D ratio

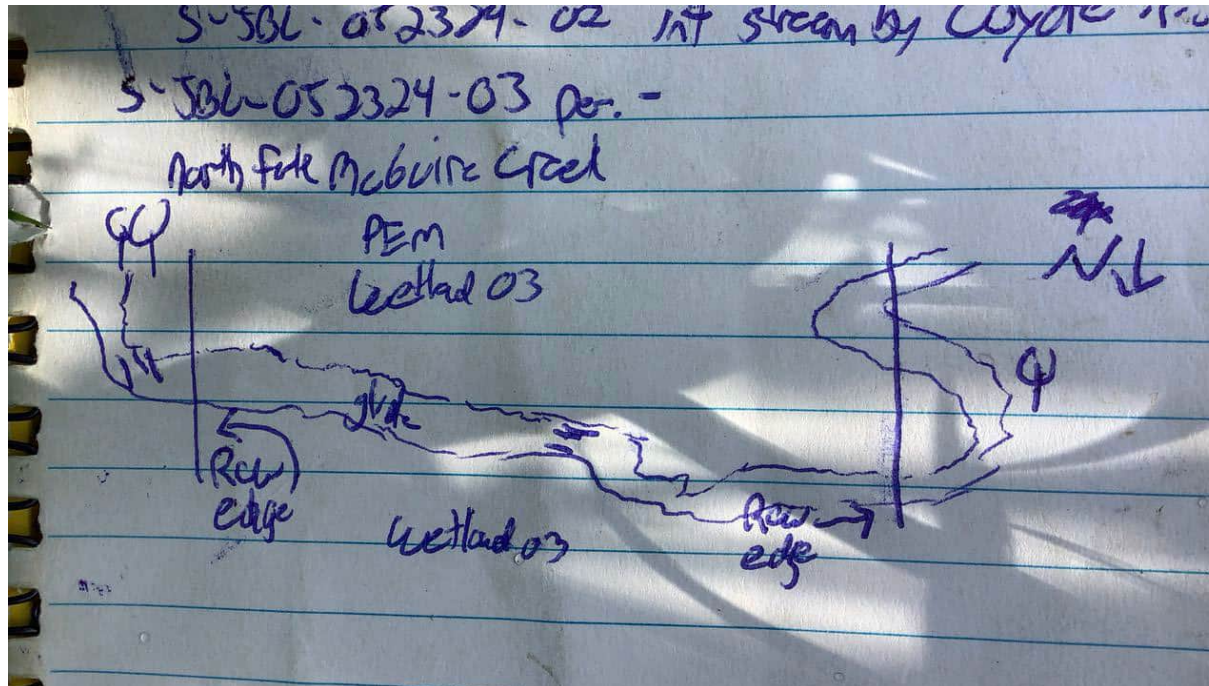
bankfull max. depth

floodprone x^2 width

entrench. ratio

Legacy Tree:

Stream Drawing: Stream WP-21





Upstream



Downstream



Substrate

Stream & Location: Stream WP-30 Washington-Polo Road - Phase 2 RM: Date:

S-JBL-052224-02 Scorers Full Name & Affiliation: JBL Jacobs

River Code: STORET #: Lat./Long.: 40.48728 / -81.04871 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR /SLABS [10], BOULDER [9], COBBLE [8], GRAVEL [7], SAND [6], BEDROCK [5]. OTHER TYPES: HARDPAN [4], DETRITUS [3], MUCK [2], SILT [2], ARTIFICIAL [0]. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], SANDSTONE [0], RIP/RAP [0], LACUSTURINE [0], SHALE [-1], COAL FINES [-2]. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], FREE [1], EXTENSIVE [-2], MODERATE [-1], NORMAL [0], NONE [1]. NUMBER OF BEST TYPES: 4 or more [2], 3 or less [0].

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts. AMOUNT: EXTENSIVE >75% [11], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1].

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1].

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0].

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], VERY FAST [1], FAST [1], MODERATE [1], SLOW [1], INTERSTITIAL [-1], INTERMITTENT [-2], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact. Pool / Current Maximum 12.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). NO RIFFLE [metric=0]. RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE (e.g., Cobble, Boulder) [2], MOD. STABLE (e.g., Large Gravel) [1], UNSTABLE (e.g., Fine Gravel, Sand) [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1]. Riffle / Run Maximum 8.

6] GRADIENT (104.0 ft/mi) DRAINAGE AREA (1.15 mi^2) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. %POOL: 10, %GLIDE: 20, %RUN: 60, %RIFFLE: 10. Gradient Maximum 10.

A) SAMPLED REACH

Check ALL that apply

METHOD	STAGE
<input type="checkbox"/> BOAT	1st -sample pass- 2nd
<input checked="" type="checkbox"/> WADE	<input type="checkbox"/> HIGH <input type="checkbox"/>
<input type="checkbox"/> L. LINE	<input type="checkbox"/> UP <input type="checkbox"/>
<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> NORMAL <input type="checkbox"/>
	<input type="checkbox"/> LOW <input type="checkbox"/>
	<input type="checkbox"/> DRY <input type="checkbox"/>

DISTANCE

0.5 Km
 0.2 Km
 0.15 Km
 0.12 Km
 OTHER

61
meters

CANOPY

> 85%- OPEN
 55%-<85%
 30%-<55%
 10%-<30%
 <10%- CLOSED

CLARITY

1st --sample pass-- 2nd

< 20 cm

20-<40 cm

40-70 cm

> 70 cm/ CTB

SECCHI DEPTH

1st _____ cm

pass

2nd _____ cm

C) RECREATION

AREA DEPTH
 POOL: [N] >100ft² [N] >3ft

B) AESTHETICS

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

D) MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG - SUCCESSION - OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING - BEDLOAD - STABLE

ARMoured / SLUMPS

ISLANDS / SCoured

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

E) ISSUES

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs - CONSTRUCTION - SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H2O / TILE / H2O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

F) MEASUREMENTS

\bar{x} width 4

\bar{x} depth

max. depth 24

\bar{x} bankfull width 7

bankfull \bar{x} depth

W/D ratio

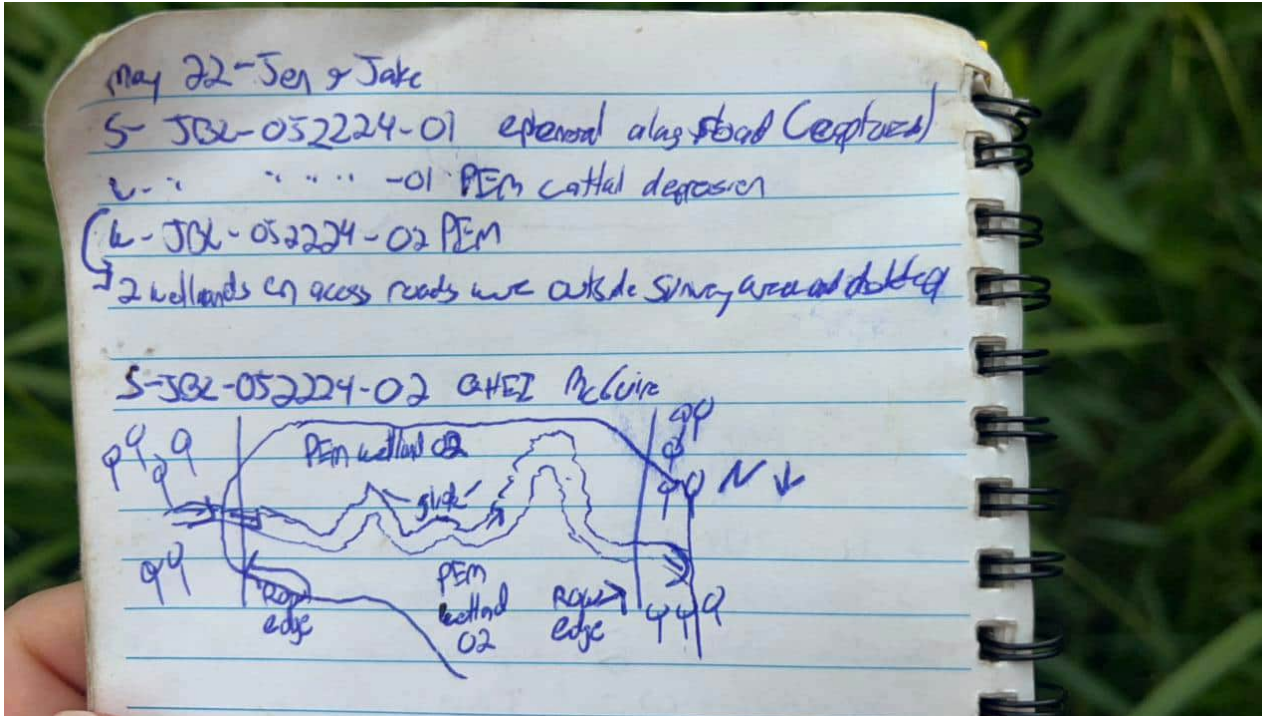
bankfull max. depth

floodprone x^2 width

entrench. ratio

Legacy Tree:

Stream Drawing: Stream WP-30





Upstream



Downstream



Substrate

Appendix E
HHEI Stream Data Forms



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

29

SITE NAME/LOCATION Stream WP-01 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050124-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.61773254900004 LONG -81.04269226299994 RIVER MILE _____

DATE 05/01/2024 SCORER JFW COMMENTS Intermittent stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>50</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	10	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	50	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	30	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">19</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Washington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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

Channel is braided and not well defined with vegetation growing within bottom area of defined banks





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

27

SITE NAME/LOCATION Stream WP-04 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-043024-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.608237522000024 LONG -81.043068966999995 RIVER MILE _____

DATE 04/30/2024 SCORER JFW COMMENTS Ephemeral stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>60</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 12 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	60	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	5	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	10	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">17</div> <p>A + B</p>
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Washington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) Yes Species observed (if known): _____

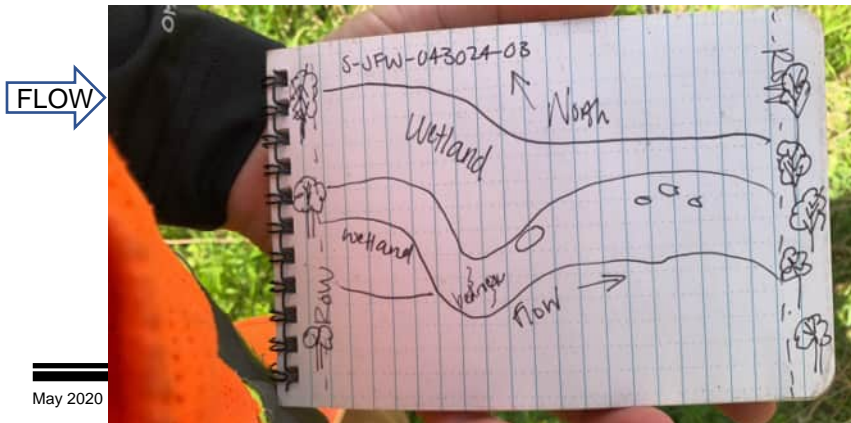
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

22

SITE NAME/LOCATION Stream WP-05 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-043024-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.60548604500008 LONG -81.04321545999994 RIVER MILE _____

DATE 04/30/2024 SCORER JFW COMMENTS Ephemeral stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>85</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	85	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	5	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	10	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">12</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Washington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

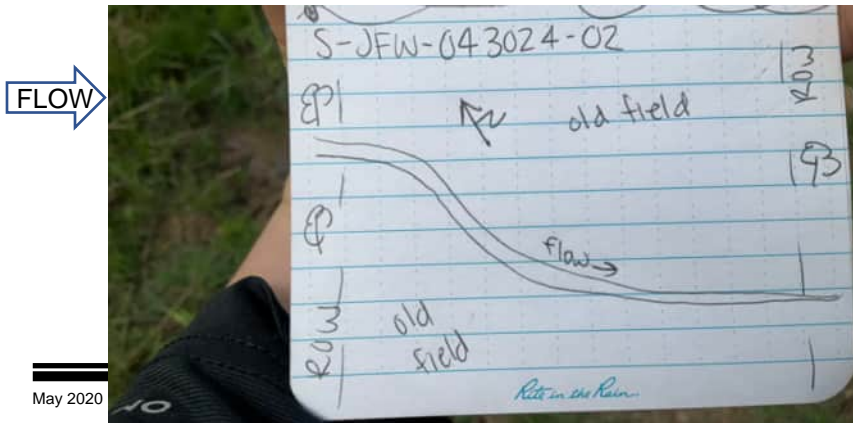
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

45

SITE NAME/LOCATION Stream WP-06 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-043024-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.60255 LONG -81.04336 RIVER MILE _____

DATE 04/30/2024 SCORER JFW COMMENTS Intermittent eroded channel flowing through a power line ROW and downstream from a residential yard and pond

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td>25</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>25</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>40</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>10</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>25</u> (A) 21 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	25	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	25	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	40	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	10	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center; font-weight: bold;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">25</div> <p style="text-align: center;">A + B</p>
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Washington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 4/30/24 Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

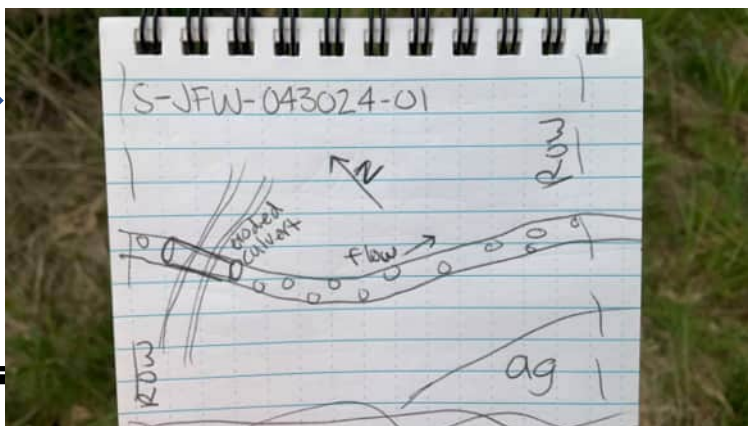
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

22

SITE NAME/LOCATION Stream WP-07 Washington-Polo Road - Phase 2
 SITE NUMBER S-MJA-052124-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____
 LENGTH OF STREAM REACH (ft) _____ LAT 40.59924 LONG -81.04529 RIVER MILE _____
 DATE 05/21/2024 SCORER MJA COMMENTS Ephemeral stream originating in hay field. Conveyed under road via culvert.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>70</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>2</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>3</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) 12 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	70	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	2	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	3	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	10	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	15	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">17</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS Stream flows through hayfield.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Washington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 5/17/24 Quantity: 0.74

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

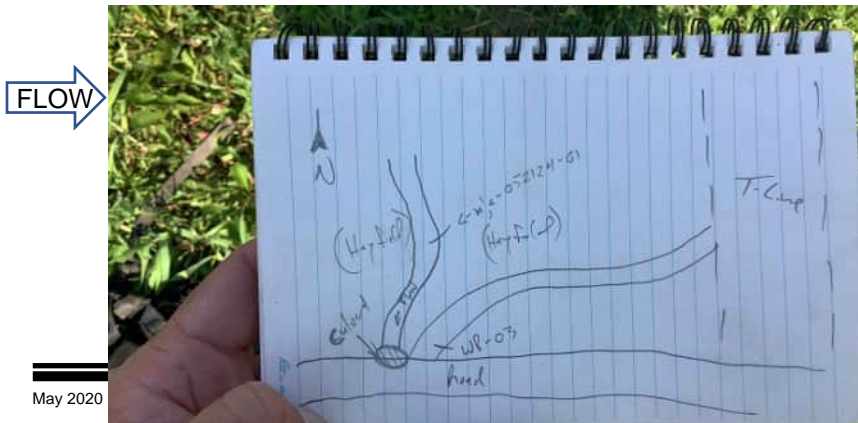
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Downstream



Substrate



Upstream



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

37

SITE NAME/LOCATION Stream WP-08 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050124-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.59860204900008 LONG -81.04359252799998 RIVER MILE _____

DATE 05/01/2024 SCORER JFW COMMENTS Perennial stream flowing through a maintained transmission line ROW and PEM wetland

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>25</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>50</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	25	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	50	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	5	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	20	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">7</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Washington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Extends into woods outside of the surveyed transmission line ROW

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Yes Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) Yes Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

33

SITE NAME/LOCATION Stream WP-09 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050224-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.58098329100005 LONG -81.04470815899998 RIVER MILE _____

DATE 05/02/2024 SCORER JFW COMMENTS Intermittent stream flowing from a pond

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>15</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>5</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>30</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>50</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) 9 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	15	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	30	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	50	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">13</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Conservation Tillage	
		Urban or Industrial	
		Open Pasture, Row Crop	
		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Center

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Stream exits maintained ROW into woods

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

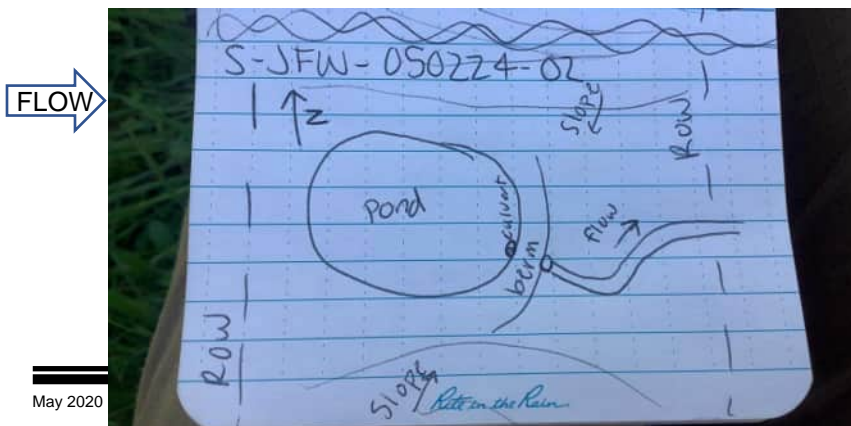
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

24

SITE NAME/LOCATION Stream WP-10 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050224-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.57771207600007 LONG -81.04532285399995 RIVER MILE _____

DATE 05/02/2024 SCORER JFW COMMENTS Ephemeral stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>90</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 12 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	90	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	10	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">14</div> <p style="text-align: center;">A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Center

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 95.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Stream continues through wooded area

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

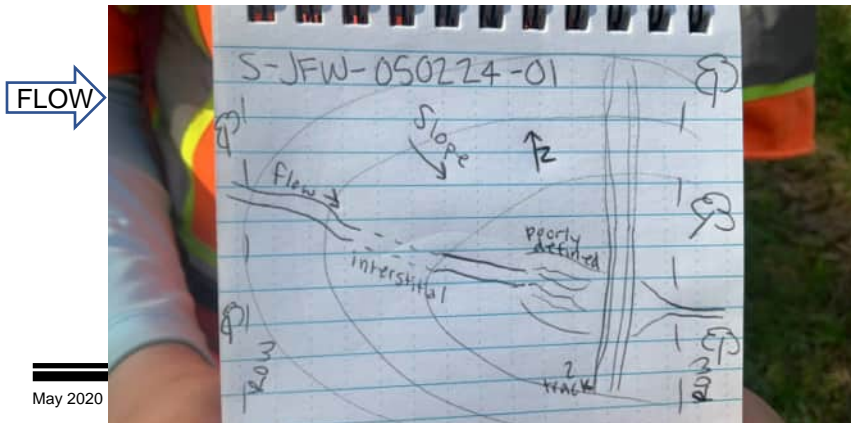
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

45

SITE NAME/LOCATION Stream WP-11 Washington-Polo Road - Phase 2

SITE NUMBER S-MJA-052124-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.57429740900005 LONG -81.05002534499994 RIVER MILE _____

DATE 05/21/2024 SCORER MJA COMMENTS Stream flowing from pond via culvert.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>25</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>45</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>25</u> (A) 21 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	10	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	25	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	45	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	20	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: 60px; text-align: center; font-size: 24px; font-weight: bold;">25</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS Gravel drive near left bank, residential near right bank. Channel lined with trees.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Center

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 05/17/2024 Quantity: 0.74

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 15.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) Yes Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

56

SITE NAME/LOCATION Stream WP-13 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050124-05 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.573226344000034 LONG -81.08742444299997 RIVER MILE _____

DATE 05/01/2024 SCORER JFW COMMENTS Intermittent stream flowing through a residential yard

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>40</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>40</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 12 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	40	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	40	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	10	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;">16</div> <p style="text-align: center;">A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R		
<input type="checkbox"/> <input type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/> <input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/> <input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/> <input type="checkbox"/>	Narrow <5m	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/> <input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/> <input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Center

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Yes Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

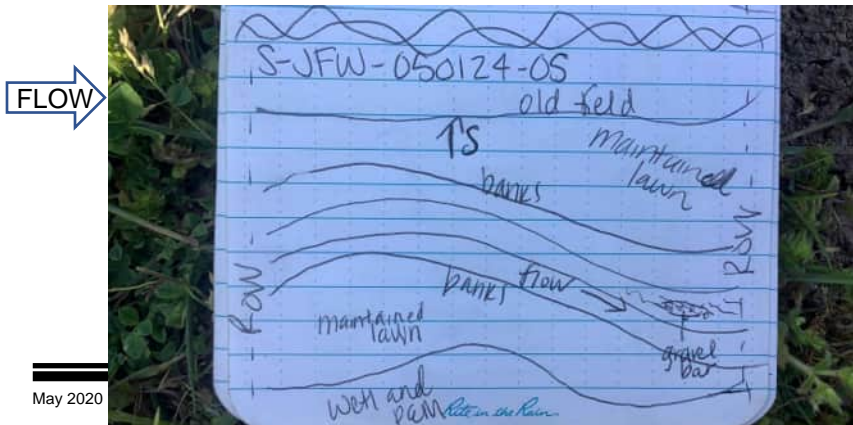
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

16

SITE NAME/LOCATION Stream WP-14 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050224-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.566668004000064 LONG -81.04581915699998 RIVER MILE _____

DATE 05/02/2024 SCORER JFW COMMENTS Ephemeral stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>25</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>70</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>5</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	25	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	70	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	5	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">6</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Center

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Sampled reach is in a maintained power line ROW but the stream continues into the woods

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

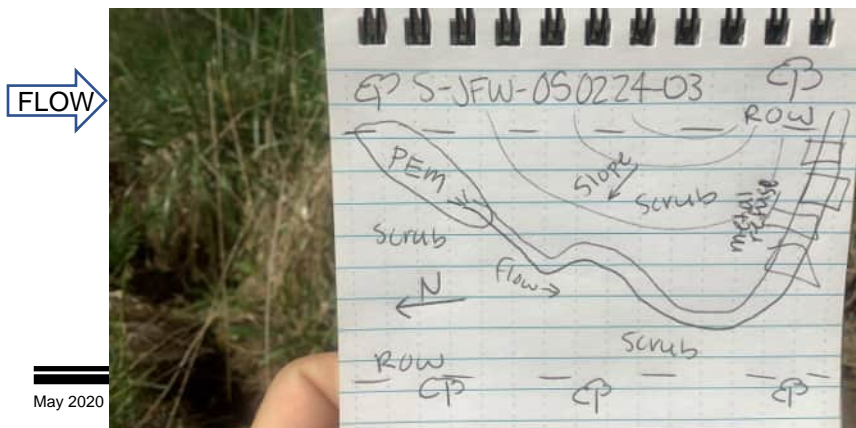
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

49

SITE NAME/LOCATION Stream WP-15 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050224-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.56433 LONG -81.04585 RIVER MILE _____

DATE 05/02/2024 SCORER JFW COMMENTS Perennial stream flowing adjacent to a large pond

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>85</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 12 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	85	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	15	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 10px auto;">14</div> <p>A + B</p>
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS Adjacent to a large pond

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Center

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 80.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Yes Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

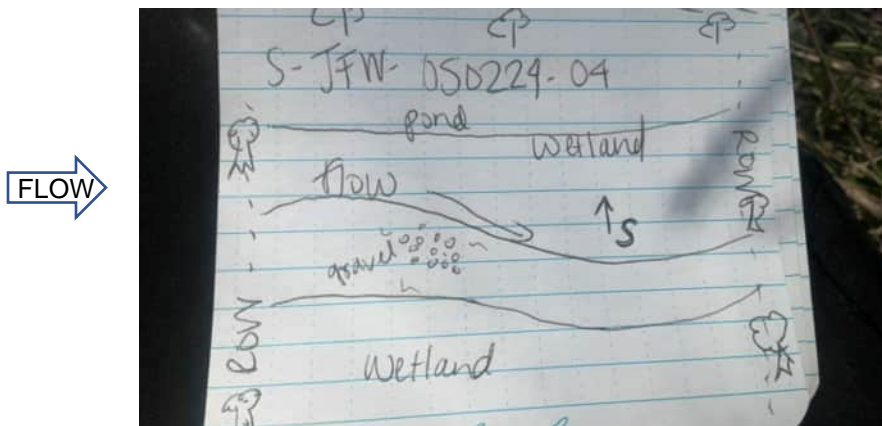
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

20

SITE NAME/LOCATION Stream WP-16 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050224-06 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.55625078400004 LONG -81.04567482199997 RIVER MILE _____

DATE 05/02/2024 SCORER JFW COMMENTS Ephemeral stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td style="text-align: center;">60</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td style="text-align: center;">_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td style="text-align: center;">20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td style="text-align: center;">10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">10</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td style="text-align: center;">_____</td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 6 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	60	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	20	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	10	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	10	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px; margin: 0 auto;">10</div> <p style="text-align: center;">A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R		
<input type="checkbox"/> <input type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/> <input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/> <input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/> <input type="checkbox"/>	Narrow <5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/> <input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/> <input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Sampled reach is in a maintained power line ROW but the stream continues into the woods

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

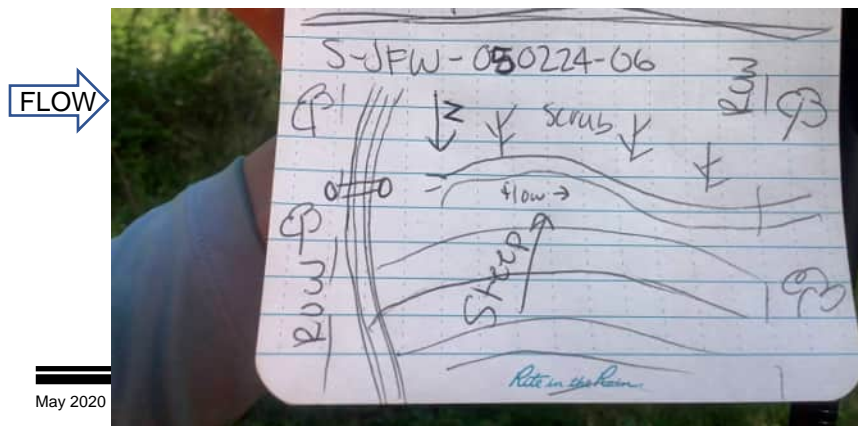
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

20

SITE NAME/LOCATION Stream WP-17 Washington-Polo Road - Phase 2

SITE NUMBER S-JFW-050224-05 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.555518875000075 LONG -81.04569399299999 RIVER MILE _____

DATE 05/02/2024 SCORER JFW COMMENTS Ephemeral stream flowing through a maintained transmission line ROW

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: center;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td style="text-align: center;">60</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td style="text-align: center;">20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td style="text-align: center;">10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">10</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td style="text-align: center;">_____</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td style="text-align: center;">_____</td> </tr> </tbody> </table> <p style="margin-top: 10px;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 6 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	60	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	20	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	10	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	10	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center; font-weight: bold;">HHEI Metric Points</p> <p style="text-align: center; font-size: 12px;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">10</div> <p style="text-align: center; font-weight: bold;">A + B</p>
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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COMMENTS _____

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COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): _____

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(Record all observations below)

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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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

18

SITE NAME/LOCATION Stream WP-18 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052224-07 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.54318123500008 LONG -81.04602975799997 RIVER MILE _____

DATE 05/22/2024 SCORER JBL COMMENTS channelized outfall of pond

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>90</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>10</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 6 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	90	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> ARTIFICIAL [3 pts]	10	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px; margin: 0 auto;">8</div> <p style="text-align: center;">A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 05/22/2024 Quantity: 0.01

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) Yes Species observed (if known): _____

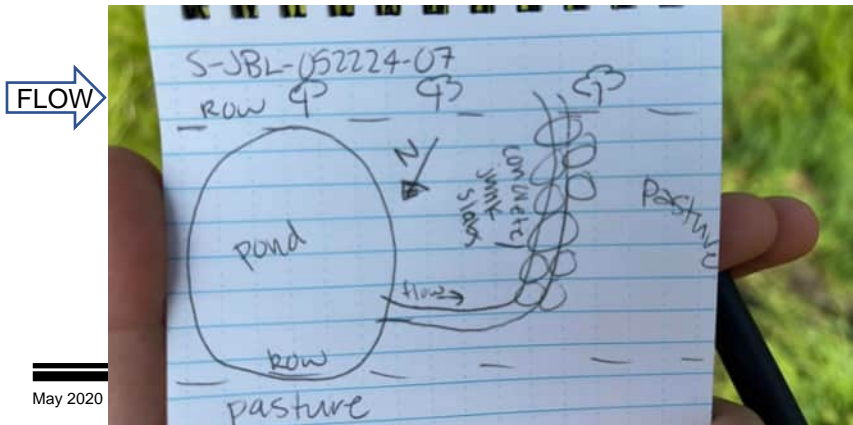
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

42

SITE NAME/LOCATION Stream WP-19 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052324-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.540288850000024 LONG -81.04634919199998 RIVER MILE _____

DATE 05/23/2024 SCORER JBL COMMENTS Riparian disturbance in ROW and past cattle disturbance

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>30</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>50</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	30	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	50	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">12</div> <p>A + B</p>
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 05/22/2024 Quantity: 0.1

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Stream continues through wooded area

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

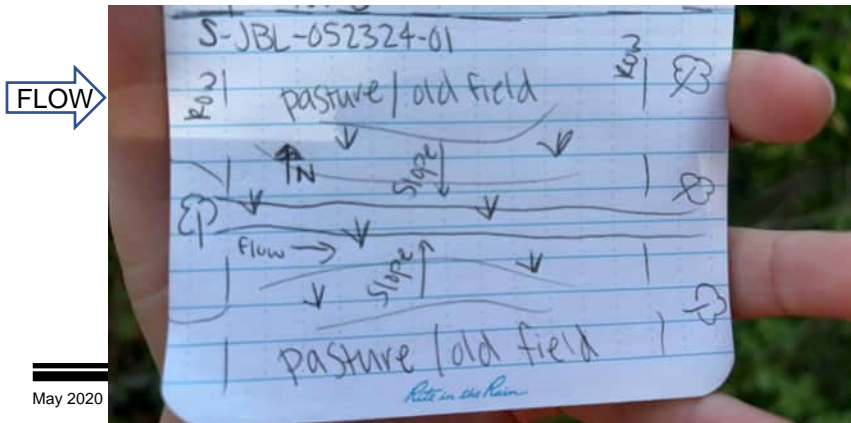
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

61

SITE NAME/LOCATION Stream WP-20 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052324-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.53615 LONG -81.04637 RIVER MILE _____

DATE 05/23/2024 SCORER JBL COMMENTS Int stream. Riparian disturbance from ROW maintenance

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>25</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>60</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 12 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	25	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	60	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	5	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">16</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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	L	R				
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 5/22/24 Quantity: 0.1

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Sampled reach is in a cleared transmission line ROW, but the stream continues through forest

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

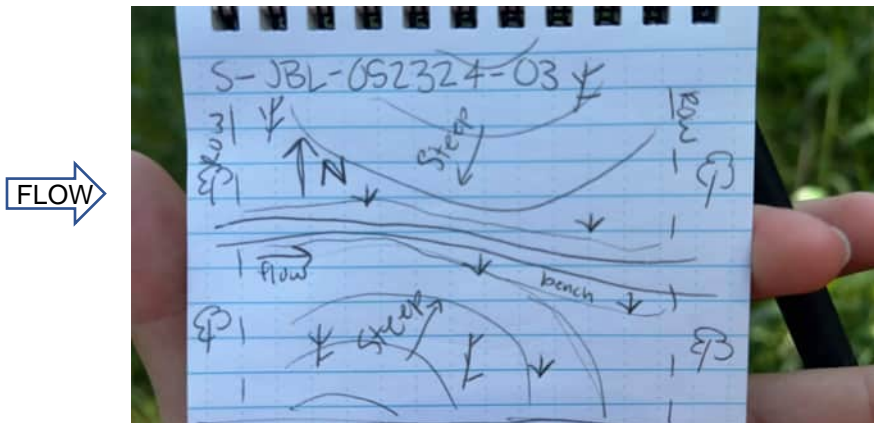
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Downstream



Upstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

56

SITE NAME/LOCATION Stream WP-22 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052324-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.53142 LONG -81.04659 RIVER MILE _____

DATE 05/23/2024 SCORER JBL COMMENTS Int, eroded channel on ROW. Disturbed from ROW maintenance

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>15</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>30</u> (A) 21 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	15	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	10	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	30	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	30	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	15	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;">26</div> <p style="text-align: center;">A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R		
<input type="checkbox"/> <input checked="" type="checkbox"/>	Wide >10m	<input type="checkbox"/> <input checked="" type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/> <input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/> <input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/> <input type="checkbox"/>	Narrow <5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/> <input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/> <input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): No Date of last precipitation: 5/22/24 Quantity: 0.1

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): _____ Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

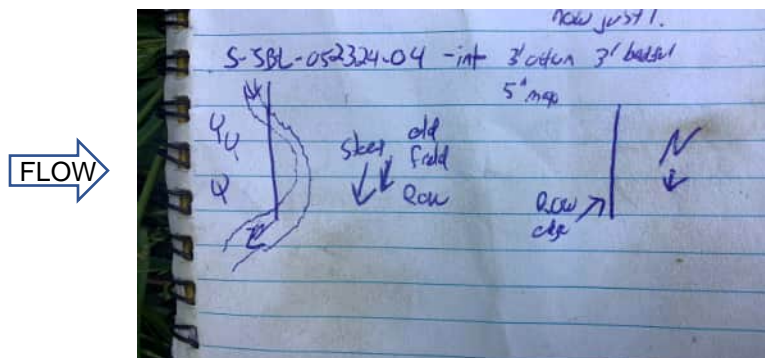
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

54

SITE NAME/LOCATION Stream WP-23 Washington-Polo Road - Phase 2

SITE NUMBER S-MJA-052224-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.52335552200003 LONG -81.04711459999999 RIVER MILE _____

DATE 05/22/2024 SCORER MJA COMMENTS Perennial stream flowing through wetland in maintained t-line ROW.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>45</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	20	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	30	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	45	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">19</div> <p>A + B</p>
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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	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS Stream flows through large PEM wetland.

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 05/17/2024 Quantity: 0.74

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 95.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Yes Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) Yes Species observed (if known): _____

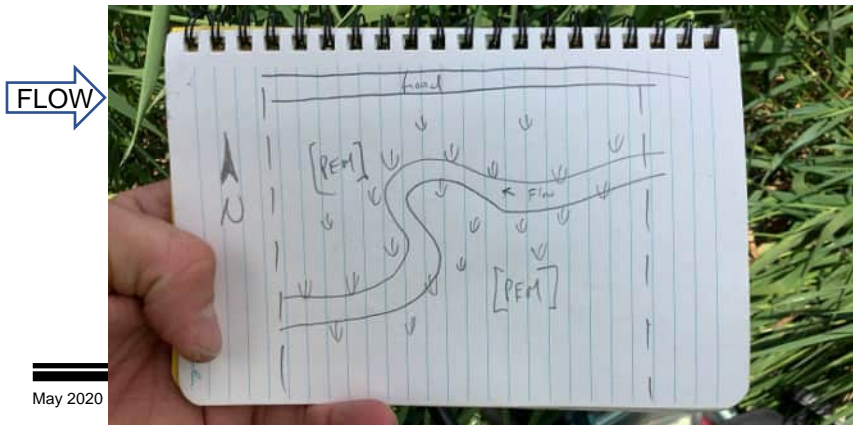
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

49

SITE NAME/LOCATION Stream WP-24 Washington-Polo Road - Phase 2

SITE NUMBER S-MJA-052224-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.52206 LONG -81.04705 RIVER MILE _____

DATE 05/22/2024 SCORER MJA COMMENTS Stream channel begins downslope of t-line structure in ROW. Former ID: S-BCR-5/23/2018-7

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> <th style="width:10%;">TYPE</th> <th style="width:40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>40</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>25</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>15</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	20	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	15	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	40	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	25	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 5px;">19</div> <p style="text-align: center;">A + B</p>
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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		
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m		<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None		<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS Maintained ROW along both banks

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Trickle flow between pools.

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 5/17/24 Quantity: 0.74

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

30

SITE NAME/LOCATION Stream WP-25 Washington-Polo Road - Phase 2

SITE NUMBER S-MJA-052224-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.51491 LONG -81.04741 RIVER MILE _____

DATE 05/22/2024 SCORER MJA COMMENTS Stream flows under grassy ATV crossing and into pond via culvert.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:25%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:25%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>15</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>25</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 15 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	20	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	15	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	25	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	30	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 40px; margin: 0 auto;">20</div> <p style="text-align: center;">A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Stream flowing from hillside seep in woods east of ROW

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input checked="" type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
---	---	--	---	--

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 5/17/24 Quantity: 0.74

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 50.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

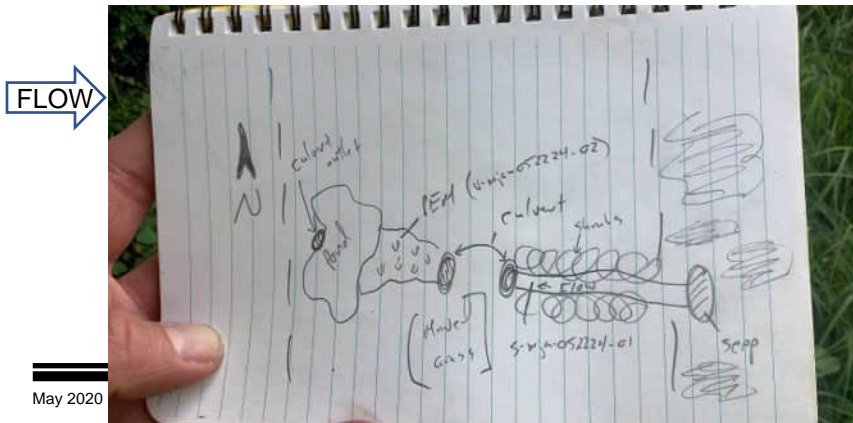
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

29

SITE NAME/LOCATION Stream WP-26 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052224-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.50927194700006 LONG -81.04763614699993 RIVER MILE _____

DATE 05/22/2024 SCORER JBL COMMENTS Eph stream. ROW maintenance impacts

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>15</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>35</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	20	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	15	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	30	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	35	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">19</div> <p>A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Recent rain today

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input checked="" type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
---	---	--	---	--

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 05/22/2024 Quantity: 0.01

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): _____ Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

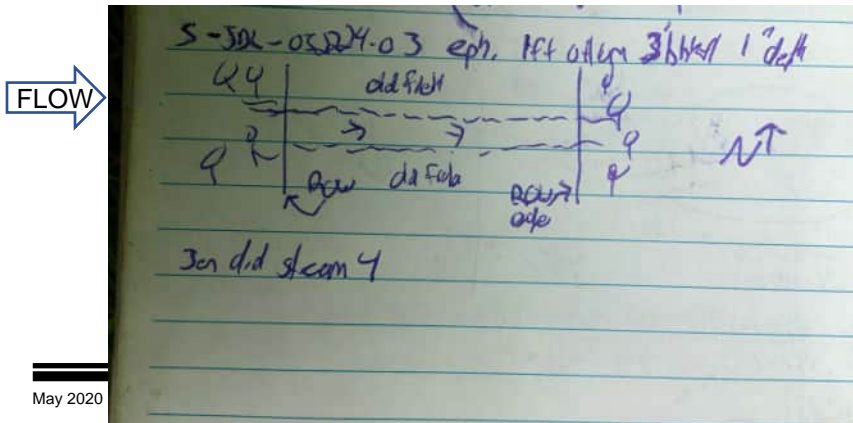
Salamanders Observed? (Y/N) No Species observed (if known): _____

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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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

33

SITE NAME/LOCATION Stream WP-27 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052224-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.50896 LONG -81.04760 RIVER MILE _____

DATE 05/22/2024 SCORER JBL COMMENTS Impacts to riparian veg for ROW maintenance

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td><u>60</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>15</u></td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>5</u></td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 9 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<u>60</u>	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>15</u>	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>5</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold; margin: 10px auto;">13</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input checked="" type="checkbox"/> Severe (10 ft/100 ft)
---	---	---	---	---

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 5/22/24 Quantity: 0.1

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 60.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Stream continues into woods beyond cleared ROW that was surveyed

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

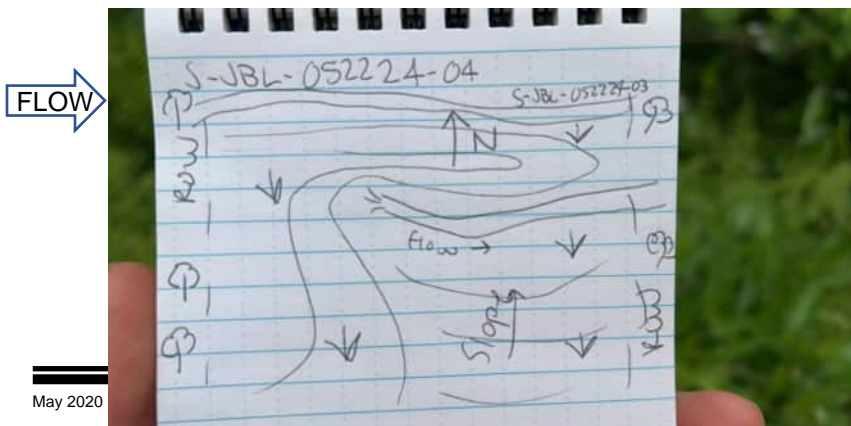
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

59

SITE NAME/LOCATION Stream WP-28 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052224-05 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) 0.6

LENGTH OF STREAM REACH (ft) _____ LAT 40.50245 LONG -81.04798 RIVER MILE _____

DATE 05/22/2024 SCORER JBL COMMENTS Adjacent to wetland. Recent earthwork by landowner south of stream

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">TYPE</th> <th style="width:25%;">PERCENT</th> <th style="width:15%;">TYPE</th> <th style="width:25%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>20</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>35</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>15</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	20	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	15	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	35	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	30	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 5px;">19</div> <p style="text-align: center;">A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input checked="" type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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)

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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 5/22/24 Quantity: 0.01

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No 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) No If not, explain: _____

Sampled reach is in a cleared transmission line ROW, but the stream continues through forest

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

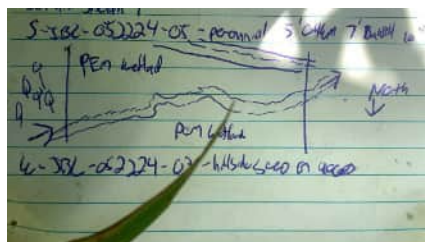
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Comments Regarding Biology: _____

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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

28

SITE NAME/LOCATION Stream WP-29 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052224-06 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.50184 LONG -81.04787 RIVER MILE _____

DATE 05/22/2024 SCORER JBL COMMENTS ephemeral stream. Culverted under road, channel recently excavated

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>90</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>10</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 6 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	90	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> ARTIFICIAL [3 pts]	10	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">8</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Carrollton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Lee

MISCELLANEOUS

Base Flow Conditions? (Y/N): _____ Date of last precipitation: 5/22/24 Quantity: 0.01

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

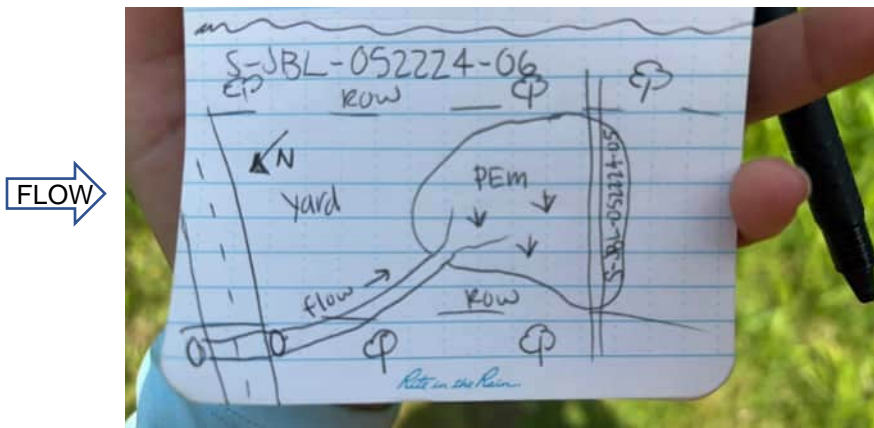
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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



Excavated culvert output flowing into a PEM wetland and losing definition



Downstream



Upstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

27

SITE NAME/LOCATION Stream WP-31 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052224-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.48688496300008 LONG -81.04833346999999 RIVER MILE _____

DATE 05/22/2024 SCORER JBL COMMENTS Ephemeral stream along road. Culverted under access

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">TYPE</th> <th style="width: 40%;">PERCENT</th> <th style="width: 10%;">TYPE</th> <th style="width: 40%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>30</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>40</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) 12 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	30	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	10	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	40	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	15	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold; margin: 10px auto;">17</div> <p>A + B</p>
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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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
---	--	---	---	--

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)

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: Scio NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Perry

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: 05/22/2024 Quantity: 0.01

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 50.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

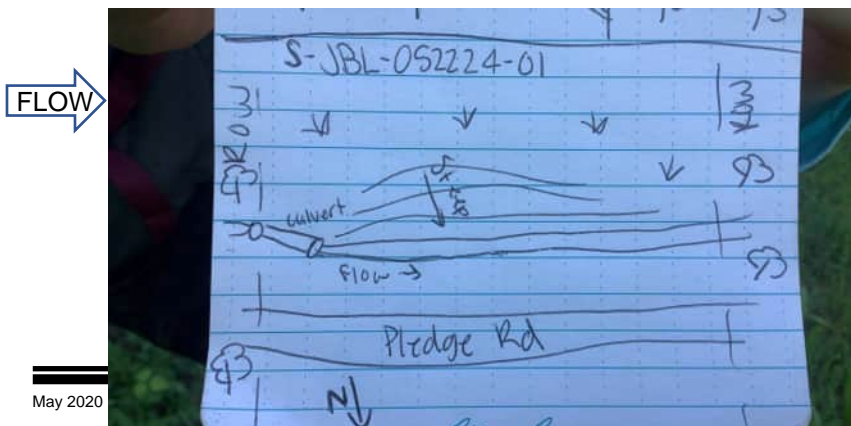
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

69

SITE NAME/LOCATION Stream WP-32 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052124-02 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.47468882900006 LONG -81.04945103199998 RIVER MILE _____

DATE 05/21/2024 SCORER JBL COMMENTS Culvert, old Stream WP-33

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">TYPE</th> <th style="text-align: left; border-bottom: 1px solid black;">PERCENT</th> <th style="text-align: left; border-bottom: 1px solid black;">TYPE</th> <th style="text-align: left; border-bottom: 1px solid black;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>20</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>25</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>35</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 18 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 6</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	10	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	5	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	30	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	10	<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	25	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center; font-weight: bold;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">24</div> <p style="text-align: center;">A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

- 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: Scio NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Perry

MISCELLANEOUS

Base Flow Conditions? (Y/N): No Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): _____ Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

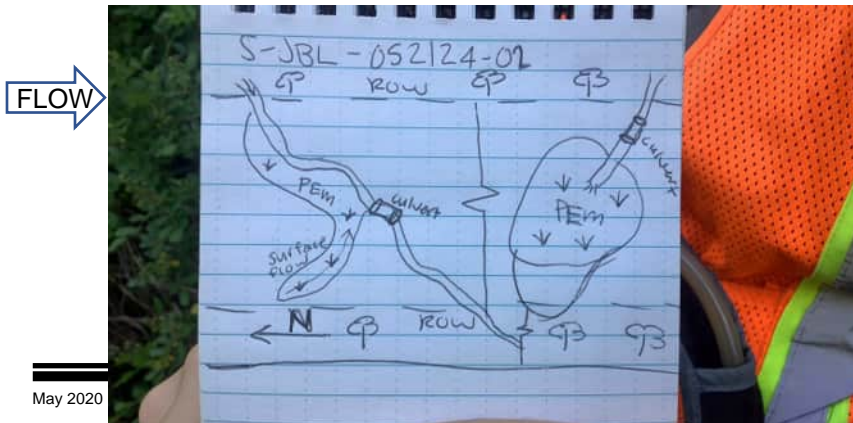
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

47

SITE NAME/LOCATION Stream WP-33 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052124-03 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.47140 LONG -81.04958 RIVER MILE _____

DATE 05/21/2024 SCORER JBL COMMENTS Old culvert washed out. Adjacent to PEM wetland

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> <th style="text-align: left;">TYPE</th> <th style="text-align: left;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]</td> <td>35</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>5</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>35</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>15</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) 12 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input checked="" type="checkbox"/> SILT [3 pt]	35	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	10	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	35	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	15	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center; font-weight: bold;">HHEI Metric Points</p> <p style="text-align: center;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">17</div> <p style="text-align: center;">A + B</p>
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Scio NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Perry

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 90.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

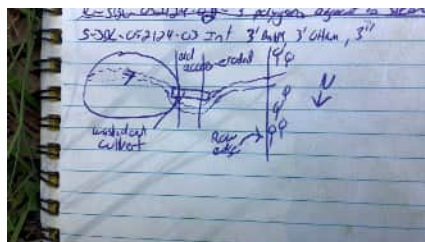
Salamanders Observed? (Y/N) No Species observed (if known): _____

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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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

61

SITE NAME/LOCATION Stream WP-34 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052124-04 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.46722 LONG -81.04929 RIVER MILE _____

DATE 05/21/2024 SCORER JBL COMMENTS Severly eroded channel. Drain tiles. ROW maintenance disturbaances

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <i>ONLY</i> two predominant substrate <i>TYPE</i> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]</td> <td>15</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>30</td> <td><input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>10</td> </tr> <tr> <td><input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>35</td> <td><input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>10</td> <td><input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>30</u> (A) 21 (B) 5</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	15	<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	30	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	10	<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	35	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	10	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p style="text-align: center; font-weight: bold;">HHEI Metric Points</p> <p style="text-align: center; font-weight: bold;">Substrate Max = 40</p> <div style="border: 1px solid black; padding: 10px; text-align: center; font-size: 24px; font-weight: bold;">26</div> <p style="text-align: center;">A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Scio NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Perry

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

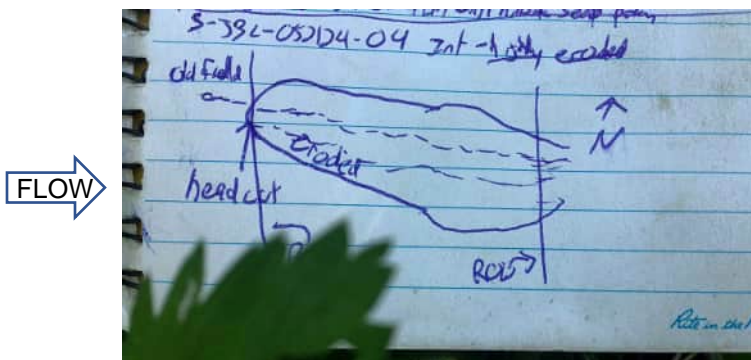
Salamanders Observed? (Y/N) No Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) No 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





Upstream



Downstream



Substrate



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

53

SITE NAME/LOCATION Stream WP-35 Washington-Polo Road - Phase 2

SITE NUMBER S-JBL-052124-01 RIVER BASIN 05040001 RIVER CODE _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 40.46260 LONG -81.04928 RIVER MILE _____

DATE 05/21/2024 SCORER JBL COMMENTS Intermittent. ROW maintenance disturbance

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

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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	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
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COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)
 Flat to Moderate
 Moderate (2 ft/100 ft)
 Moderate to Severe
 Severe (10 ft/100 ft)

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)

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: Scio NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
 County: Carroll Township/City: Perry

MISCELLANEOUS

Base Flow Conditions? (Y/N): Yes Date of last precipitation: _____ Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 100.0

Were samples collected for water chemistry? (Y/N): No 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) Yes If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) No Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) No Species observed (if known): _____

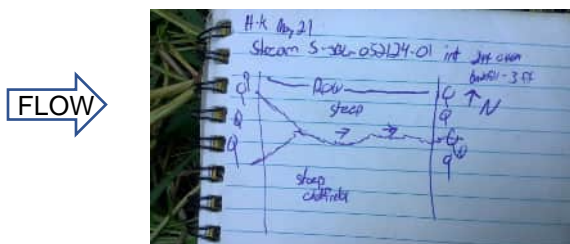
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DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Upstream



Downstream



Substrate

Appendix F
Jacobs Open Water/Pond Data Forms

POND DATA SHEET

FEATURE ID Pond WP-01		ASSOCIATED FEATURES:	
SURVEY TYPE: Wetland and waterbodies delineation			
DATE: 05/02/2024	CLIENT/PROJECT NAME: FirstEnergy		Washington-Polo Road - Phase 2
INVESTIGATORS: JFW		ROUTE:	
STATE/COUNTY: OH Carroll		IS THIS A MAPPED NWI FEATURE?: no	
WATERBODY CHARACTERISTICS			
WATERBODY TYPE:	Pond		
AVG. DEPTH:	6 ft		
AVG. WIDTH (WATER SURFACE):	60 ft		
APPROXIMATE SIZE:	0.13 acres		
QUALITATIVE ATTRIBUTES			
AVERAGE WATER APPEARANCE:	Turbid brown		
PRIMARY SUBSTRATE (IF OBSERVED):	Silt		
POTENTIAL HABITAT FOR:	Frogs, fish, birds		
SURROUNDING LAND USE:	Old field and forest		
WETLAND FRINGE (IF PRESENT):	No		
COMMENTS			
Culverts to northwest and southeast. Stream flowing from culverts on southeast side			



N



NW

POND DATA SHEET

FEATURE ID Pond WP-02	ASSOCIATED FEATURES:		
SURVEY TYPE: Wetland and waterbodies delineation			
DATE: 05/21/2024	CLIENT/PROJECT NAME: FirstEnergy		Washington-Polo Road - Phase 2
INVESTIGATORS: MJA		ROUTE:	
STATE/COUNTY: OH Carroll		IS THIS A MAPPED NWI FEATURE?: yes	PUBGx

WATERBODY CHARACTERISTICS

WATERBODY TYPE:	Artificial pond
AVG. DEPTH:	>3 ft
AVG. WIDTH (WATER SURFACE):	90 ft
APPROXIMATE SIZE:	0.09 acre

QUALITATIVE ATTRIBUTES

AVERAGE WATER APPEARANCE:	Murky brown
PRIMARY SUBSTRATE (IF OBSERVED):	Silt, muck
POTENTIAL HABITAT FOR:	Fish (observed), amphibians, waterfowl
SURROUNDING LAND USE:	Residential, forest
WETLAND FRINGE (IF PRESENT):	None

COMMENTS

Artificial residential pond. Overflow flows into stream to the west via culvert.



N



E



W



Substrate

POND DATA SHEET

FEATURE ID Pond WP-03	ASSOCIATED FEATURES:		
SURVEY TYPE: Wetland and waterbodies delineation			
DATE: 05/02/2024	CLIENT/PROJECT NAME: FirstEnergy		Washington-Polo Road - Phase 2
INVESTIGATORS: JFW	ROUTE:		
STATE/COUNTY: OH	Carroll	IS THIS A MAPPED NWI FEATURE?: yes	PUBGx
WATERBODY CHARACTERISTICS			
WATERBODY TYPE:	Pond		
AVG. DEPTH:	10 ft		
AVG. WIDTH (WATER SURFACE):	225 ft		
APPROXIMATE SIZE:	2.54 acres		
QUALITATIVE ATTRIBUTES			
AVERAGE WATER APPEARANCE:	Brown		
PRIMARY SUBSTRATE (IF OBSERVED):	Silt		
POTENTIAL HABITAT FOR:	Fish, frogs, birds		
SURROUNDING LAND USE:	Old field, scrub shrub		
WETLAND FRINGE (IF PRESENT):	Some wetland veg growing within OHWM		
COMMENTS			



SE



SW



S

POND DATA SHEET

FEATURE ID Pond WP-04	ASSOCIATED FEATURES:	
SURVEY TYPE: Wetland and waterbodies delineation		
DATE: 05/22/2024	CLIENT/PROJECT NAME: FirstEnergy	Washington-Polo Road - Phase 2
INVESTIGATORS: JBL	ROUTE:	
STATE/COUNTY: OH	Carroll	IS THIS A MAPPED NWI FEATURE?: yes Pubgx
WATERBODY CHARACTERISTICS		
WATERBODY TYPE:	Pond	
AVG. DEPTH:	10	
AVG. WIDTH (WATER SURFACE):	100	
APPROXIMATE SIZE:	0.5 acre	
QUALITATIVE ATTRIBUTES		
AVERAGE WATER APPEARANCE:	Wet	
PRIMARY SUBSTRATE (IF OBSERVED):	Silt	
POTENTIAL HABITAT FOR:	Amphibians, fish	
SURROUNDING LAND USE:	Pasture hayfield	
WETLAND FRINGE (IF PRESENT):	Yes outside ROW	
COMMENTS		



S



W

POND DATA SHEET

FEATURE ID Pond WP-05	ASSOCIATED FEATURES:	
SURVEY TYPE: Wetland and waterbodies delineation		
DATE: 05/22/2024	CLIENT/PROJECT NAME: FirstEnergy	Washington-Polo Road - Phase 2
INVESTIGATORS: MJA	ROUTE:	
STATE/COUNTY: OH	Carroll	IS THIS A MAPPED NWI FEATURE?: no

WATERBODY CHARACTERISTICS

WATERBODY TYPE:	Artificial pond
AVG. DEPTH:	>1 ft
AVG. WIDTH (WATER SURFACE):	30 ft
APPROXIMATE SIZE:	0.04 acre

QUALITATIVE ATTRIBUTES

AVERAGE WATER APPEARANCE:	Green
PRIMARY SUBSTRATE (IF OBSERVED):	Silt
POTENTIAL HABITAT FOR:	Frogs, fish
SURROUNDING LAND USE:	Maintained ROW
WETLAND FRINGE (IF PRESENT):	W-MJA-052224-02

COMMENTS

Impounded pond with overflow outlet that drains into woods west of ROW.



NW



Substrate