Letter of Notification West Lancaster – South Baltimore – West Millersport 138 kV Transmission Line Rebuild Project

PUCO Case No. 24-0689-EL-BLN

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

Submitted by:
Ohio Power Company

July 22, 2024

Letter of Notification

Ohio Power Company
West Lancaster – South Baltimore – West Millersport 138 KV Transmission Line Rebuild Project

4906-6-05

Ohio Power Company (the "Company") provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

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

The Company proposes to construct the West Lancaster – South Baltimore – West Millersport 138 kV Transmission Line Rebuild Project (the "Project") located in Fairfield County, Ohio. The Project involves rebuilding 9.8 miles of the West Lancaster – South Baltimore 138 kV transmission line and a 4.6 mile segment of the South Baltimore – North Newark 138 kV transmission line (asset will be renamed as the South Baltimore - West Millersport 138kV Transmission Line). The Project will primarily be rebuilt within existing 100-foot right-of-way ("ROW") and generally replaces wood structures with steel monopole structures.

Figures 1 and 2, included in Appendix A, show the location of the Project in relation to the surrounding vicinity.

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

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

(b) More than two miles

The Project has been assigned PUCO Case No. 24-0689-EL-BLN.

B(2) Statement of Need

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

The Company has identified the need to rebuild the West Lancaster – South Baltimore and a segment of the South Baltimore – North Newark 138 kV Transmission Lines. The conductor was installed in the 1950's and has not been replaced since the lines were originally put in-service. The majority of the structures are wood structures between 25 and 70 years old and make up approximately 72% of structures along the lines. Some structures have been replaced overtime with steel, due to their age and condition. Today, there are a significant number of open structural conditions reported on the 14.4 mile project

segment affecting the poles and other structural components. These conditions include damage to structures, insect and woodpecker damage, along with rot conditions on structures. There are 51 unique structures with at least one open structural condition reported, which correlates to 49% of the structures along the Project. Further, there are several spans of conductor and shield wire with broken strands. Considering the age and condition of the transmission lines, the Company has identified the need to rebuild the assets using modern materials and current engineering and construction standards. The Project will also support continued customer expansion in the Lancaster area.

Failure to address asset renewal needs will increase the risk for reliability issues due to the age and conditions of the current facilities.

The need and solution for this Project were presented to PJM on February 15, 2024, and March 15, 2024, respectively, see Appendix B. The project was subsequently assigned a PJM number S3308. The Project was not included in the Company's 2024 Long Term Forecast Report (LTFR) because the solution was not known at the time of filing.

B(3) Project Location

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

The Project is located in Fairfield County, Ohio. Figure 1 in Appendix A shows the location of the Project in relation to the existing utility infrastructure in the area.

B(4) Alternatives Considered

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

The Company conducted an analysis that included initial investigations of potential 138 kV line route alternatives between the proposed West Lancaster Station, the South Baltimore Station, and the West Millersport Station. The line segment between the West Lancaster Station and South Baltimore Station runs through the City of Lancaster, as well as surrounding rural areas. The portion of the line from South Baltimore to West Millersport is rural in nature. Alternatives to avoid the highly urbanized residential and commercial sections of the City of Lancaster resulted in options that were not feasible due to the excessive length of potential reroutes and the large number of impacts the alternative routes would have to ecological resources, property owners, and existing infrastructure compared to the existing route. No other alternatives were identified for the Project.

Following the initial analysis, no major alternatives were considered for the Project because the proposed route is primarily located within existing ROW and the majority of new structures will be rebuilt near their existing locations. Additionally, the City of Lancaster provides a significant land use constraint as any alternative would affect existing properties. In addition to the land use constraints, the existing ROW and relative lack of environmental or cultural constraints, confirm that rebuilding this circuit, as proposed herein, is the most feasible option. Any other alternative would add length to the Project without any additional benefit.

However, two diversion areas, ranging from 5 to 100 feet off the existing centerline were identified and are primarily needed to avoid or maximize distance between the centerline and nearby residences. These diversions have no known impacts to cultural resources areas, forested areas, streams, or wetlands.

Collectively, the Project represents the most suitable location and is the most appropriate solution for meeting the Project needs.

B(5) Public Information Program

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

The Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of Ohio Revised Code ("OAC") Section 4906-6-08(A)(1-6). Further, the Company will mail a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (https://aeptransmission.com/ohio/lancastermillersport/) on which an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library in each political subdivision affected by this proposed Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

B(6) Construction Schedule

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

Construction of the Project is planned to begin in December 2024, and the anticipated in-service date will be August 2026.

B(7) Area Map

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

Figure 1 in Appendix A provides the proposed Project area and existing transmission facilities on a map of 1:24,000-scale (1-inch equals 2,000 feet), showing the Project on a United States Geological Survey (USGS) 7.5-minute topographic map of the Amanda, Baltimore, Carroll, and Millersport quadrangles. Figure 2 in Appendix A shows the Project area on ESRI World Imagery, dated 2021, as provided by the Environmental Systems Research Institute (ESRI), at a scale of 1:6,000 (1-inch equals 500 feet).

To visit the Project site from Columbus, Ohio, take I-70 East to US-33 E toward Lancaster for approximately 24 miles. Use the right lane to take the US-22 ramp to Lancaster/Circleville, then turn left onto US-22 E. Continue for approximately 1 mile to the Project site. The approximate address of the West Lancaster Station site is 1901 Cincinnati-Zanesville Rd SW, Lancaster, OH 43130, at latitude 39.700345, longitude -82.63743.

B(8) Property Agreements

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

Please refer to Appendix C for a table of property parcel numbers and an indication as to whether the easement/option necessary to construct and operate the Project has been obtained.

The form easements in Appendix C represents the easement rights the Company would seek if condemnation proceedings were necessary to construct, operate, and maintain these facilities.

B(9) Technical Features

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

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

The West Lancaster – South Baltimore – West Millersport 138 kV transmission line construction is anticipated to include the following:

Voltage: 138kV
Conductors: 1033.5 kcmil 54/7 Curlew/ACSS
Static Wire: 144ct OPGW 0.646" Diameter
Insulators: NCI
ROW Width: 100 Feet
Structure Type: Sixteen (16) Single circuit, monopole steel dead-end structures with drilled shaft concrete foundations
One (1) Single circuit, H-Frame steel dead-end structures with drilled shaft concrete foundations
Seven (7) single circuit, monopole steel running corner structure with drilled shaft concrete foundation
Eighty (80) single circuit, monopole steel-braced post structures with direct embedded foundations

B(9)(b) Electric and Magnetic Fields

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

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

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

The results, calculated using EPRI's EMF Workstation 2015 software are summarized below.

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

West Lancaster - South Baltimore - West Millersport					
Condition	Phase current (A)	Phasing Arrangements	Sag (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*

(1) Normal Max. Loading^	296.68	A-B-C	16.94	(0.26/0.99/0.25)	(8.45/25.45/9.43)
(2) Emergency Line Loading^^	568.40	A-B-C	24.02	(0.29/1.50/0.26)	(18.31/75.1/20.74)
(3) Winter Conductor Rating^^^	2479.68	A-B-C	16.94	(0.26/0.99/0.25)	(70.66/212.74/78.83)

^Peak line flow expected with all system facilities in service.
^^Maximum flow during a critical system contingency
^^^Maximum continuous flow that the line, including its terminal equipment, can withstand during winter conditions.

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

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

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

B(9)(c) Project Cost

The estimated capital cost of the project.

The cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $42,682,500 based on a Class 4 estimate. Pursuant to the PJM Open Access Transmission Tariff ("OATT"), the costs for this Project will be recovered in the Ohio Power Company's Federal Energy Regulatory Commission ("FERC") formula rate (Attachment H-14 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Ecological Impacts

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

B(10)(a) Land Use Characteristics

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

An aerial photograph of the Project vicinity is provided as Figure 2. The majority of the Project has historically been agricultural land and scrub-shrub vegetation with small, scattered woodlots and residential parcels throughout the Project area within Fairfield County. A portion of the Project also proceeds through a heavily urbanized portion within the City of Lancaster, consisting of residential and commercial properties. There are no parks, churches, cemeteries, wildlife management areas, or nature preserve lands within 100 feet of the Project. One cemetery and four churches were identified within 1,000 feet of the Project.

B(10)(b) Agricultural Land Information

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

The Fairfield County Auditor provided a list of parcels registered as Agricultural District Land on June 25, 2024. The Agricultural District Land parcel lists are updated each calendar year. The Project intersects nine parcels that were identified as Agricultural District Land parcels. Approximately 34 acres of agricultural district land is located within the proposed ROW of the Project. Approximately 104 acres of agricultural land, total, is located within the proposed ROW of the Project.

Any impacts to agricultural land and agricultural district land will be limited to the footprint of the structures. It is not anticipated that lands will be converted from agricultural use as a result of the Project.

B(10)(c) Archaeological and Cultural Resources

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

A Phase I Archaeological Investigation and a History/Architecture Investigation for the Project occurred in April and May 2024. Thirty-two (32) archaeological sites and 84 architectural resources of 50 years of age or older were identified within the Area of Potential Effect (APE).

On May 11, 2024, a response from the Ohio State Historic Preservation Office ("SHPO") was received. The SHPO concurred with the recommendations of eligibility and stated that, of the identified sites, one archeological site (33FA0419) was recommended for avoidance or additional investigation and two architectural sites (FAI0090105 and FAI0090210) were recommended as being eligible for listing in the National Register of Historic Places (NRHP).

On June 20, 2024, the SHPO responded to correspondence regarding an addendum to the South Baltimore-West Millersport section of the Project. The SHPO identified one new OAI site. The SHPO concurred that this site not be recommended as eligible for listing on the NRHP. No additional archaeological survey is recommended within the addendum project area.

On June 22, 2024 a response was received from the SHPO were received regarding an addendum to the West Lancaster-South Baltimore section of the Project. Three OAI sites (33FA0180, 33FA0419, and 33FA1720) were identified as within the project area. No further coordination is recommended for site #33FA0180, while additional investigation is recommended for site #33FA1720. At the time of submission, Phase II assessment work for OAI site 33FA0419 was actively underway and the entirety of this expanded work area will be addressed through those investigations. Likewise, per the submission, OAI site 33FA1720 is located within this expanded work area and will be addressed concurrently with the Phase II investigations for site 33FA0419. Finally, two new OAI sites were identified and neither site was recommended eligible for listing on the NRHP.

The Company has begun Phase II investigations at site 33FA0419 and 33FA1720, and has submitted an avoidance plan to SHPO for sites 33FA2873 and 33FA2898. A response from the SHPO regarding the submitted avoidance plan is still pending. All other sites are avoided with the current draft access plan. Current correspondence with SHPO is provided as Appendix C. Additional coordination correspondence will be provided as received.

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

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction stormwater discharges under General Permit OHC000006. The Company will also coordinate

stormwater permitting needs with local government agencies, as necessary. The Company will implement and maintain best management practices as outlined in the Project-specific Stormwater Pollution Prevention Plan to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant conducted a stream and wetland delineation within the Project study area. During the survey, eight wetlands, 17 streams, and two ponds were identified within the Project area. Two wetlands will require temporary impacts for access and workpads. Impacts to streams and ponds are not anticipated as no in-water work is proposed. A Pre-Construction Notification for Nationwide Permit 57 will be filed with the U.S. Army Corps of Engineers regarding temporary impacts to wetlands.

Various portions of the Project are mapped within the 100-year floodway, Flood Zone AE as identified in FEMA Map ID #39045C0234G, #39045C0232G, #39045C0145G, #39045C0153G, #39045C0154G, #39045C0152G, # 39045C0065G as provided as Appendix F. The Company will file for a Development Permit for Special Flood Hazard Area with the City of Lancaster.

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

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

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

On March 25, 2024, coordination letters were sent to United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to threatened and endangered species. Response letters were received on April 17, 2024, and April 26, 2024 by the USFWS and ODNR, respectively.

According to the response letters received from the USFWS dated April 17, 2024 and ODNR dated April 26, 2024, four bat species, northern long-eared bat (Myotis septentroinalis), Indiana bat (Myotis sodalist), little brown bat (Myotis lucifugus), and tricolored bat (Perimyotis subflavus) were identified as being within range of the Project area and ODNR/USFWS request adherence to seasonal tree clearing activities (October 1 to March 31). Based on general observations during the ecological survey, the existing land use is primarily urban or agricultural row crop. Forested clearing is not anticipated; any tree clearing needed for the 138kv will be completed between October 1 to March 31 unless agency (ODNR/USFWS) permission is obtained. Additionally, the Company's consultant completed a desktop review for potential hibernaculum within 0.25 miles of the Project area and no caves, mines, and/or karst features were identified. As per ODNR/USFWS current guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment find potential habitat within 0.25 miles of the Project area. Therefore, no further coordination was necessary with either the ODNR and/or USFWS regarding these species. Results of the desktop habitat assessment has been included within Appendix C.

The ODNR identified one mussel species, Kidneyshell (Ptychobranchus fasciolaris), within 1 mile of the Project areaHowever, due to the absence of in-stream work within the Project area, no impacts are anticipated to this species and further coordination with the ODNR is not warranted.

The ODNR also identified a Great Blue Heron Rookery within 1 mile of the Project area. This species is not recorded within the Project area. Based on existing site conditions, potential nesting habitat for the Great Blue Heron was *not* identified due to the existing land use being urban areas, residential lawns, and actively

farmed agricultural areas. Therefore, no further coordination regarding the rookery was warranted as no habitat was present.

The ODNR also identified two aquatic fish species, the northern brook lamprey (Ichthyomyzon fossor) and the popeye shiner (Notropis ariommus), within range of the Project area. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. Due to the absence of in-stream work within the Project area, no impacts are anticipated to this species and further coordination with the ODNR is not warranted.

Lastly, the ODNR commented that the Project is within range of one bird species, Northern harrier (Circus hudsonius). Based on existing site conditions, potential nesting habitat for the Northern Harrier was identified within the Project area. As per the ODNR initial guidance provided in Appendix D, this species is not likely to be impacted by the Project if their habitat will not be impacted. Therefore, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31.

A copy of the agency correspondence is provided in Appendix D. Additional information regarding habitat assessments within the Project area is provided within the Wetland Delineation and Stream Assessment Report found in Appendix E.

B(10)(f) Areas of Ecological Concern

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

The Company's consultant prepared an ecological survey report for the Project, which is provided in Appendix E. A survey of the Project area identified eight palustrine emergent (PEM) wetlands. Two wetlands will require temporary impacts for access and workpads. Additionally, 17 streams were identified within the Project area as well as 2 pond features. No in-water work is proposed for this Project and impacts to streams and ponds are not anticipated.

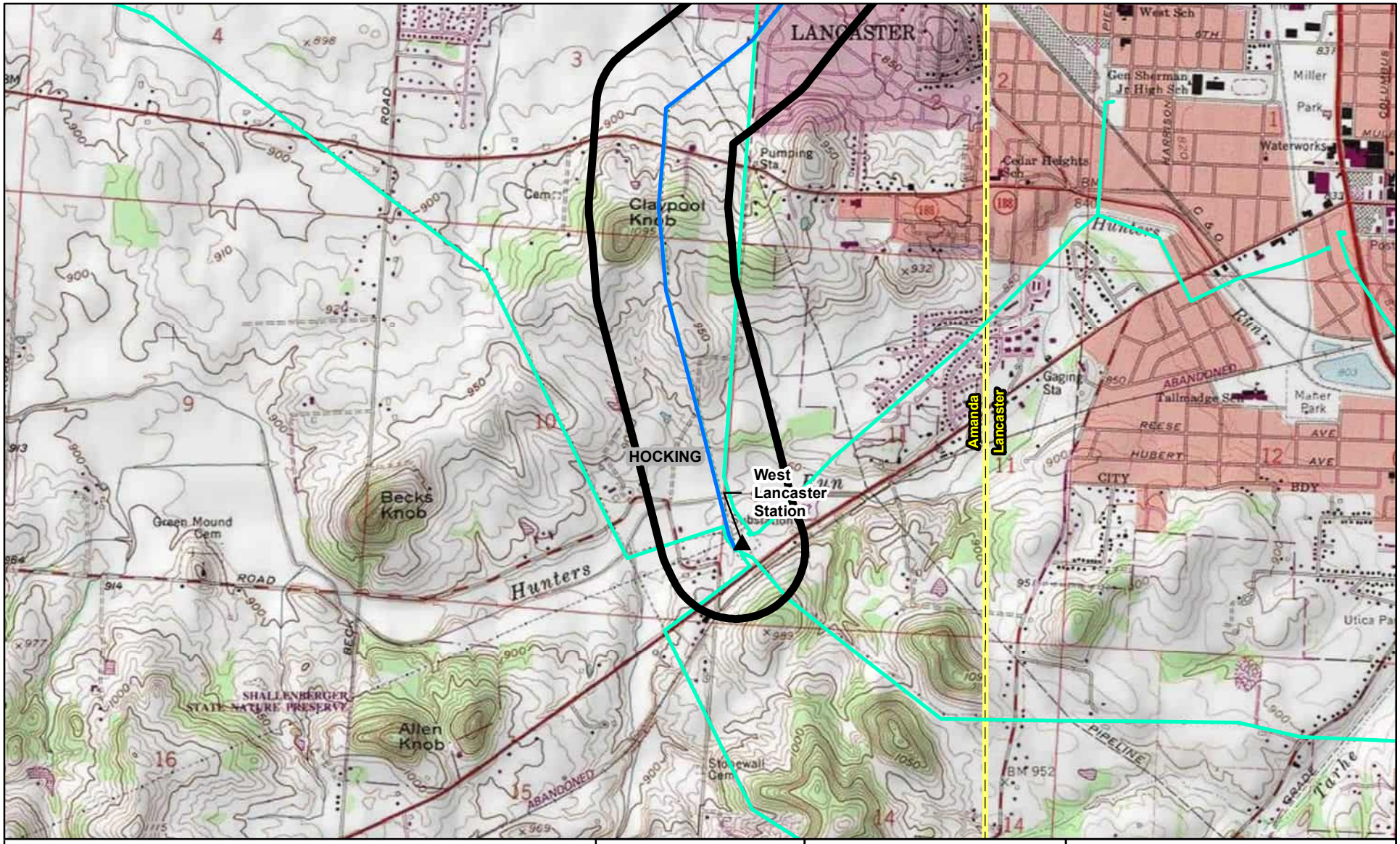
Coordination letters were submitted to the USFWS and ODNR requesting a review the Project and identification of areas of ecological concern. The USFWS's response email was received on April 17, 2024, (Appendix D) and did not indicate any federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR's response received on April 24, 2024 (Appendix D) did not indicate any known unique ecological sites, geologic features, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the Project area.

B(10)(g) Unusual Conditions

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

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

Appendix A Project Figures


LANCASTER
HOCKING
West Lancaster Station
Amanda
Lancaster
Claypool Knob
Becks Knob
Allen Knob
Hunters
Run
ROAD
Green Mound Cem
SHALLENBERGER STATE NATURE PRESERVE
Stonewall Cem
Pumping Sta
Cedar Heights Sch
West Sch
Gen Sherman Jr High Sch
Miller Park
Waterworks
Gaging Sta
ABANDONED
Tailmadge Sch
Maher Park
REESE AVE
HUBERT AVE
CITY BDY
PIPELINE
BM 952
Utica Pa
Tarhe
Station
West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Area (1000 Ft Buffer)
Township Boundary
US Topographic Lines
Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)
Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet
July 02, 2024
FIGURE 1 - Extent 1
TOPOGRAPHIC OVERVIEW
AEP OHIO
Letter of Notification
West Lancaster – South Baltimore – West Millersport Project
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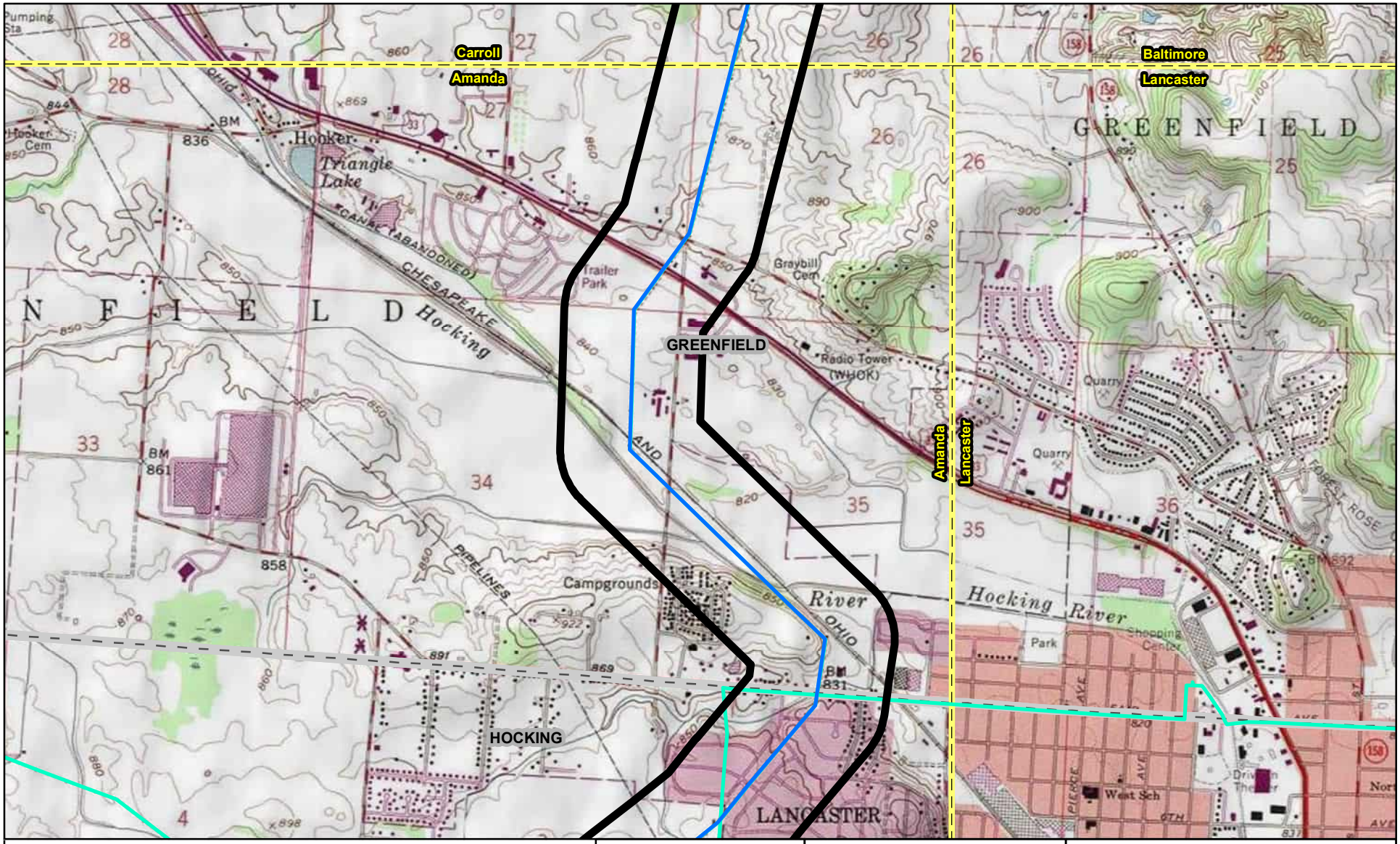
Carroll
Amanda
Baltimore
Lancaster
GREENFIELD
HOCKING
LANCASTER
Hooker
Triangle Lake
Trailer Park
Graybill Cem
Radio Tower (WHOK)
Quarry
Campgrounds
Hocking River
Park
Shopping Center
West Sch
CANAL (ABANDONED)
CHESAPEAKE AND OHIO
PIPELINES
FOREST ROSE
BM 836
BM 861
BM 831
BM 892
858
891
869
West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Area (1000 Ft Buffer)
Township Boundary
US Topographic Lines
Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)
Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet
July 02, 2024
FIGURE 1 - Extent 2
TOPOGRAPHIC OVERVIEW
Letter of Notification
West Lancaster – South Baltimore – West Millersport Project
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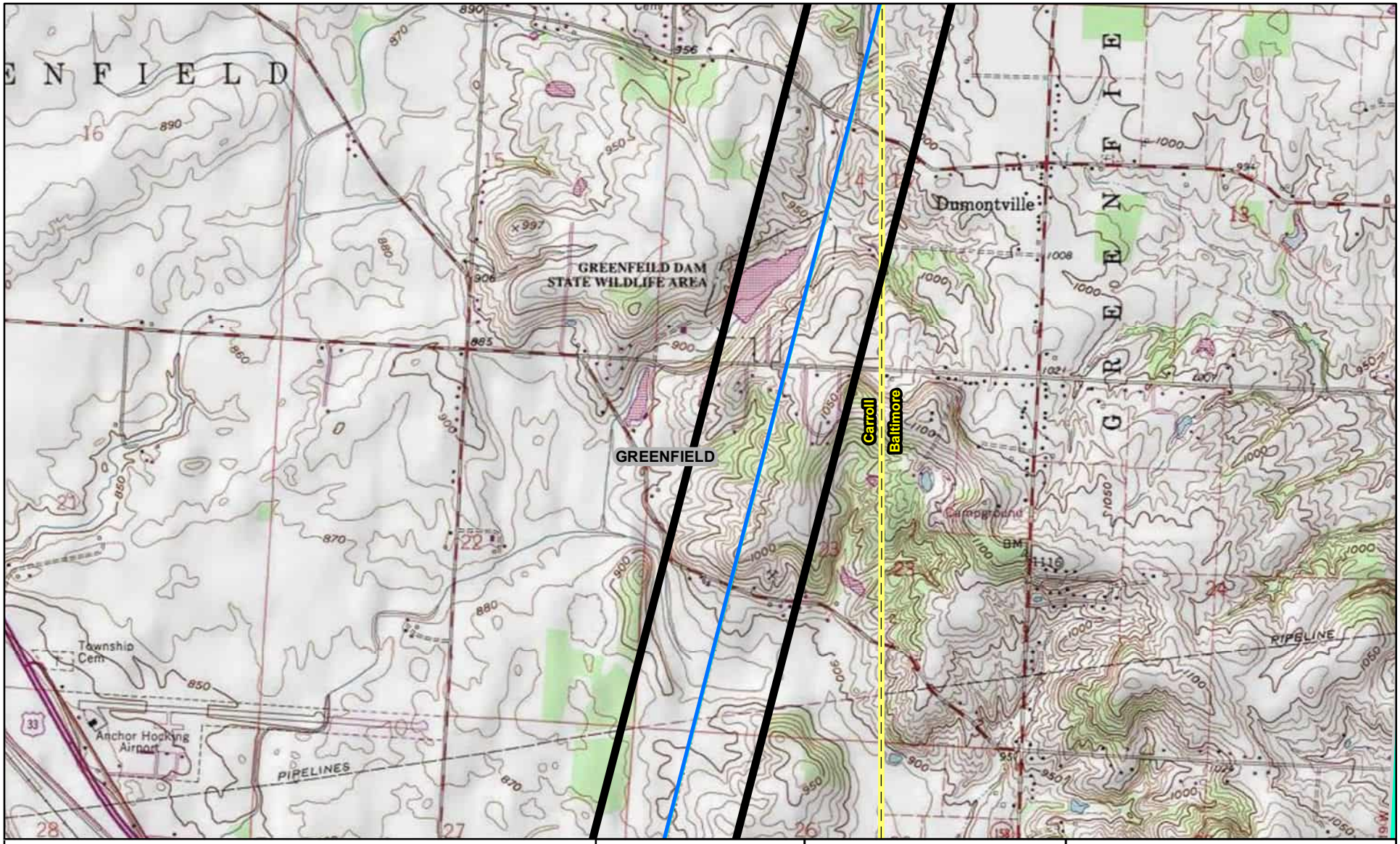

West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Area (1000 Ft Buffer)
Township Boundary
US Topographic Lines

Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

July 02, 2024

FIGURE 1 - Extent 3
TOPOGRAPHIC OVERVIEW

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

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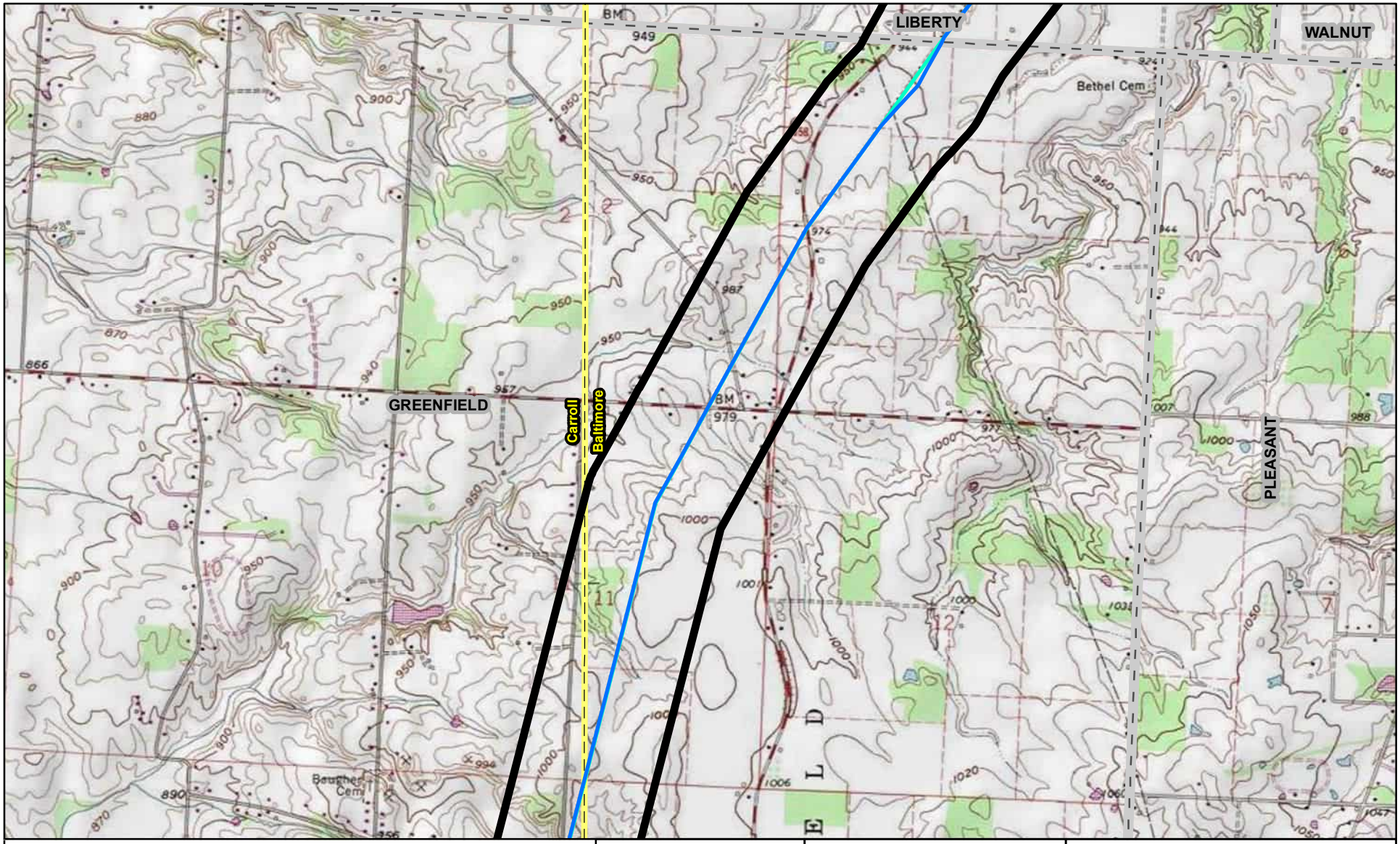
LIBERTY
WALNUT
Bethel Cem
GREENFIELD
Carroll
Baltimore
PLEASANT
BM
949
979
Beaucher Cem
West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Area (1000 Ft Buffer)
Township Boundary
US Topographic Lines
Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)
Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet
July 02, 2024
FIGURE 1 - Extent 4
TOPOGRAPHIC OVERVIEW
Letter of Notification
West Lancaster – South Baltimore – West Millersport Project
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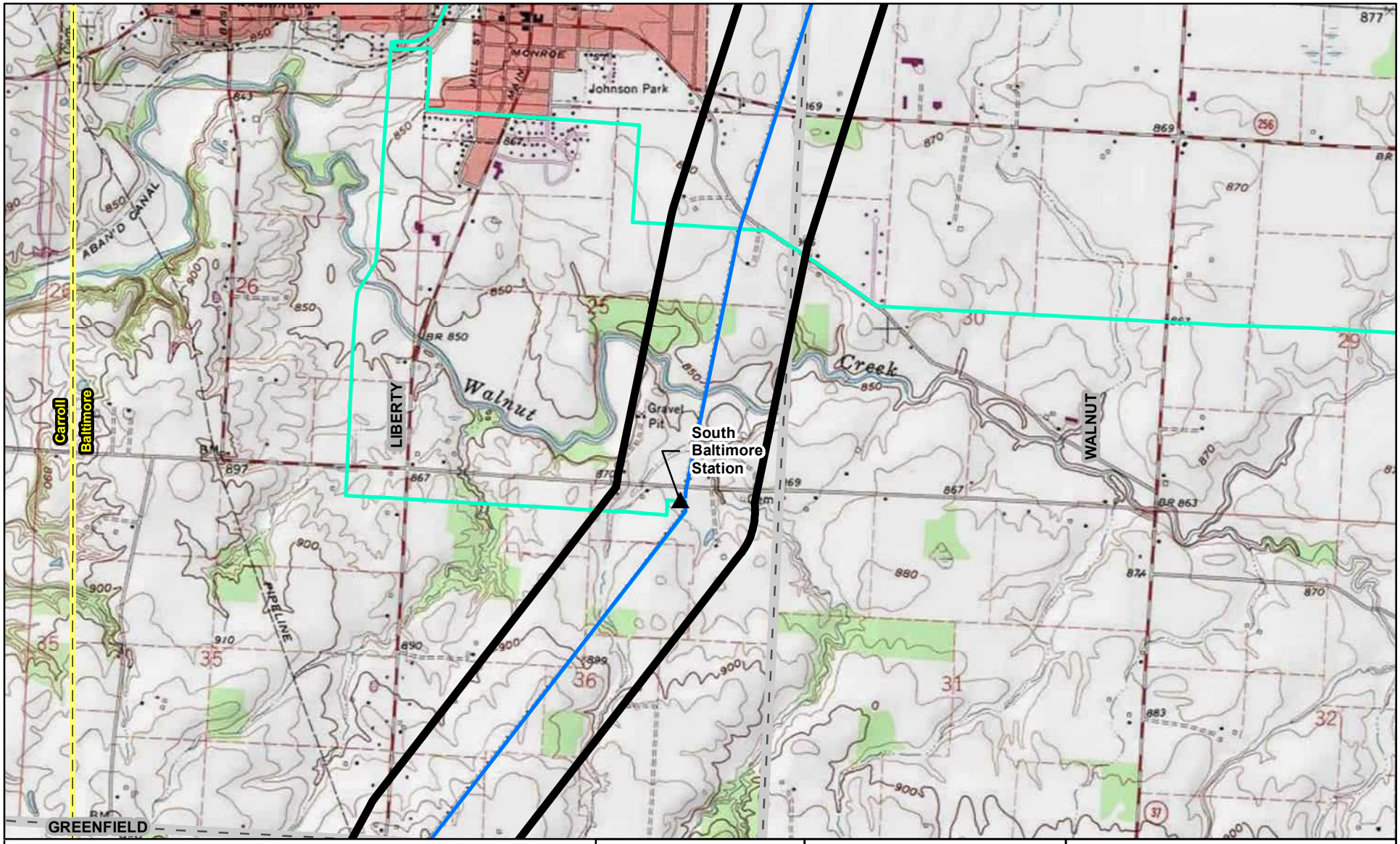

- Station
- West Lancaster - South Baltimore - West Millersport
- Existing Transmission Lines
- Project Area (1000 Ft Buffer)
- Township Boundary
- US Topographic Lines

Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

July 02, 2024

FIGURE 1 - Extent 5
TOPOGRAPHIC OVERVIEW

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

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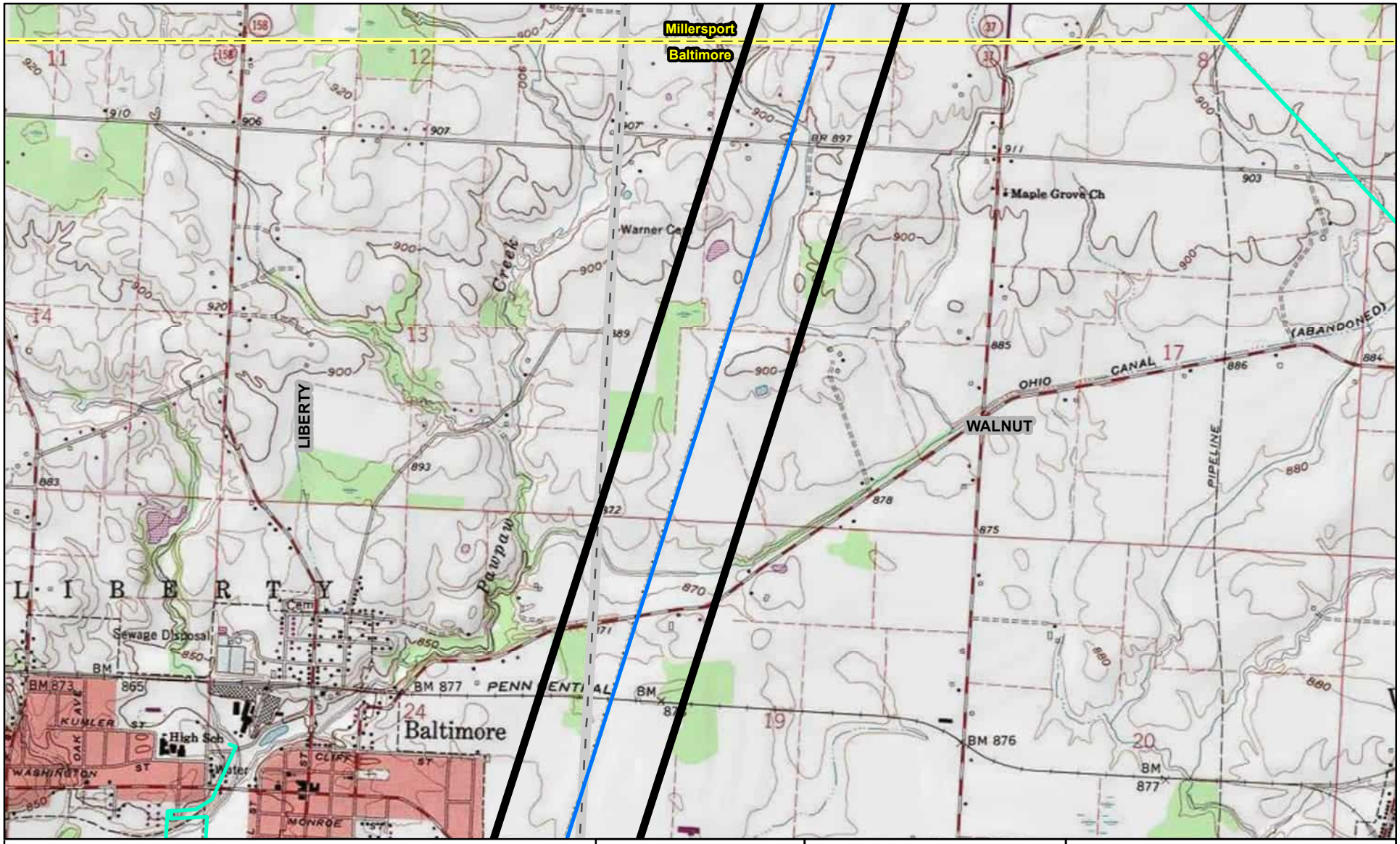

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Area (1000 Ft Buffer)

Township Boundary

US Topographic Lines

Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

July 02, 2024

FIGURE 1 - Extent 6
TOPOGRAPHIC OVERVIEW

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

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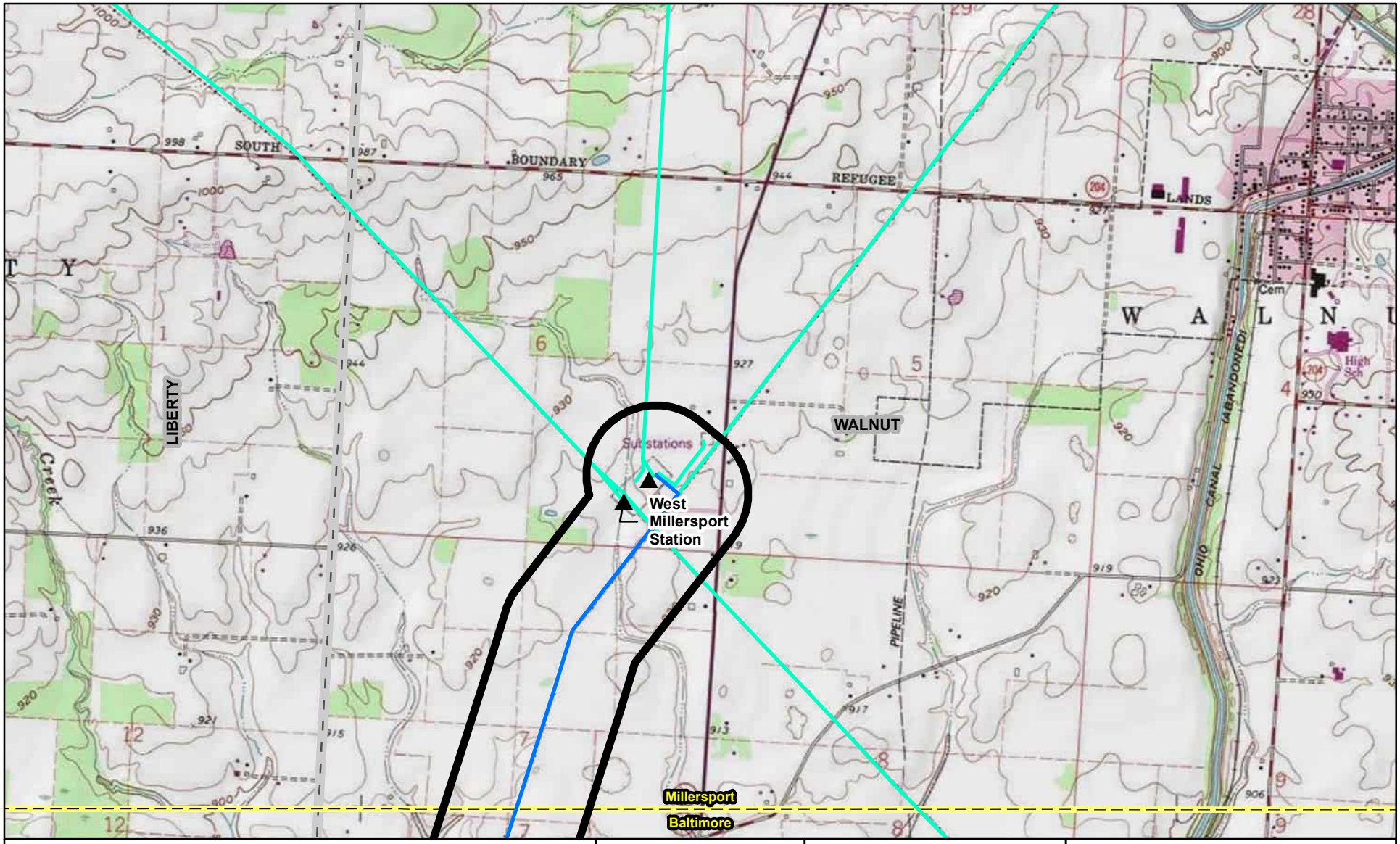


- Station
- West Lancaster - South Baltimore - West Millersport
- Existing Transmission Lines
- Project Area (1000 Ft Buffer)
- Township Boundary
- US Topographic Lines

Data Sources: AEP, USGS 7.5' Topographic Quadrangles (Amanda, Baltimore, Carroll & Millersport)

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

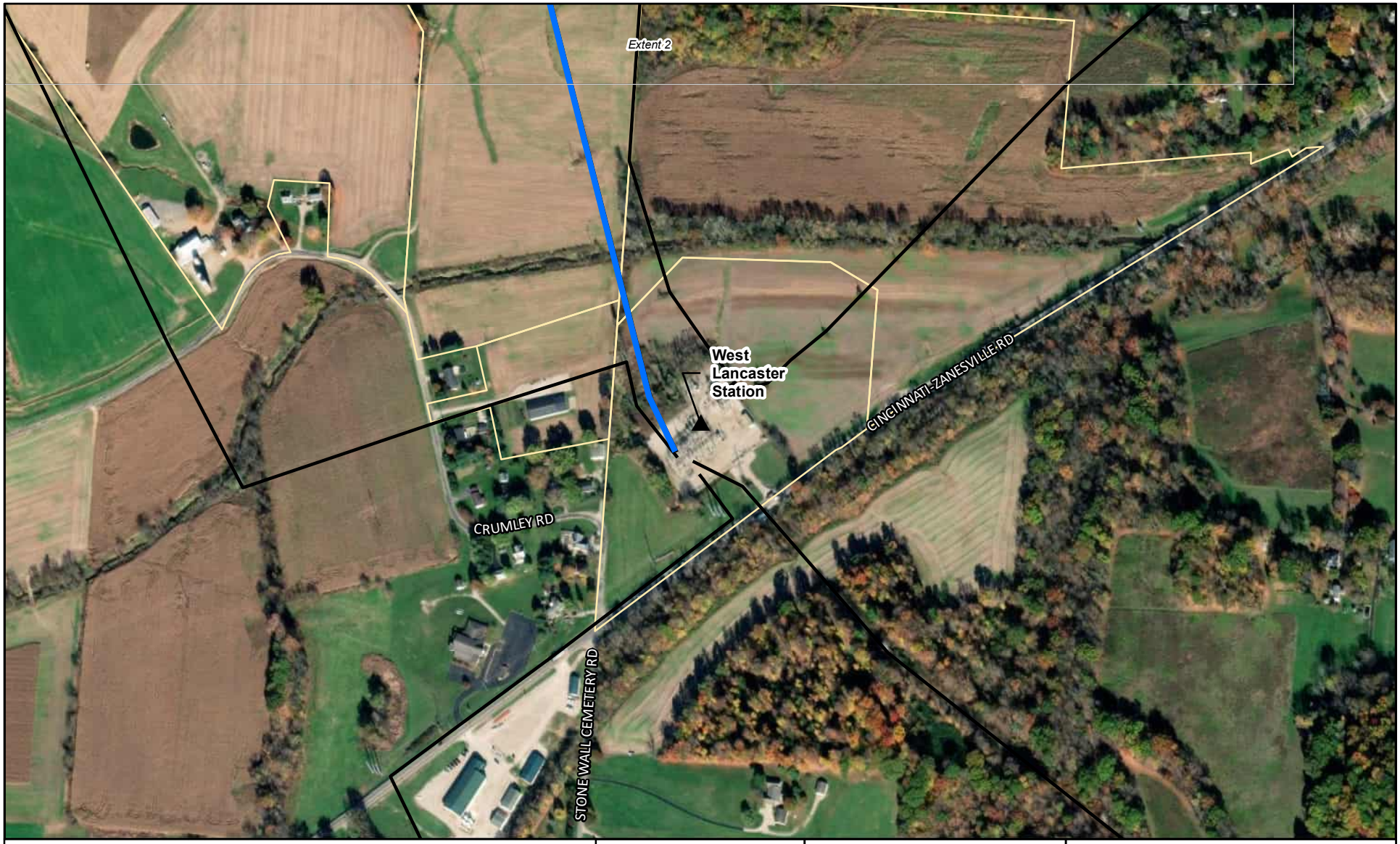
July 02, 2024

FIGURE 1 - Extent 7
TOPOGRAPHIC OVERVIEW

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 1,000 2,000 3,000 4,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 1 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet

▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

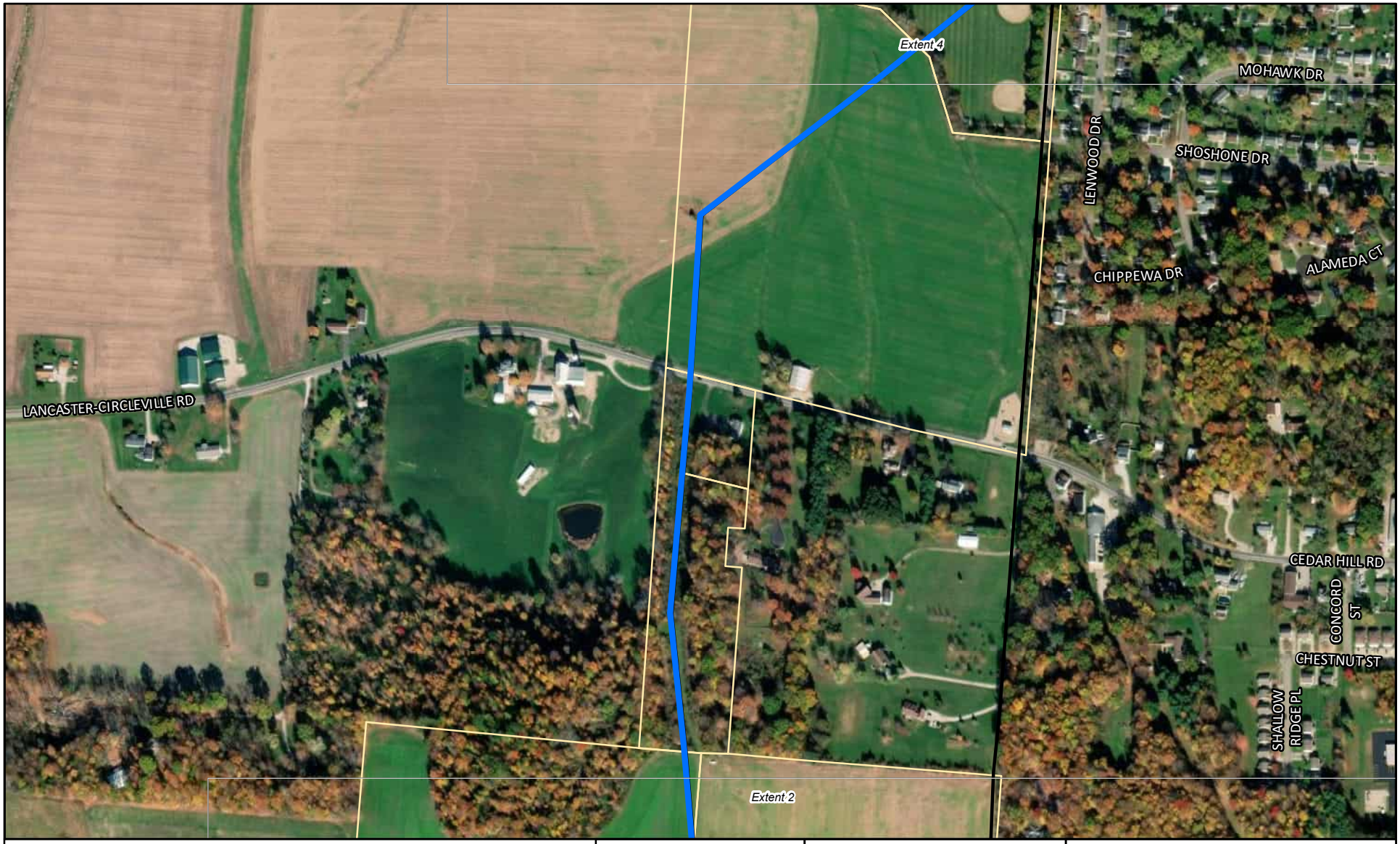
July 02, 2024

FIGURE 2 - EXTENT 2 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

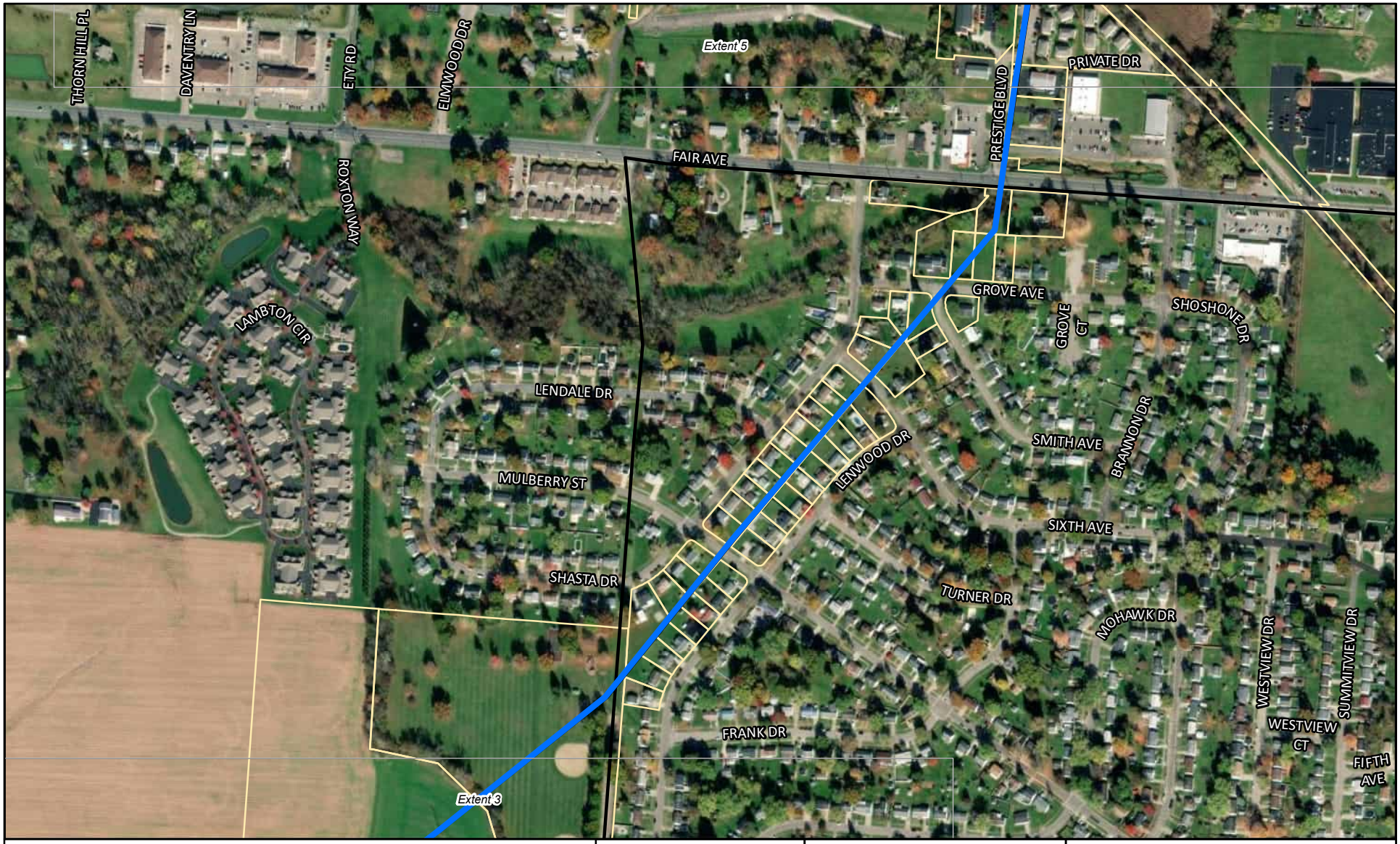
Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 3 AERIAL MAP

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 4
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet

▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

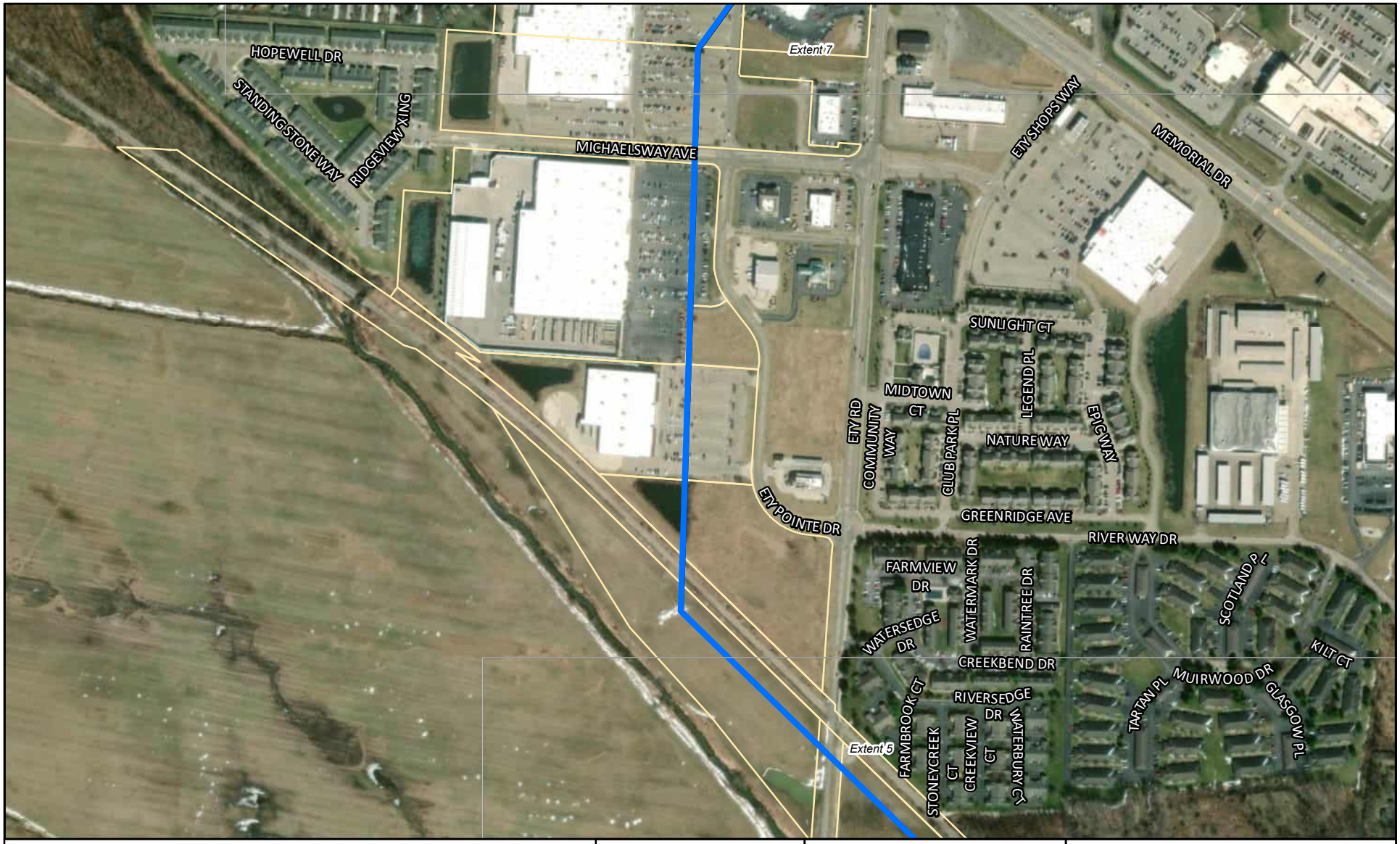
July 02, 2024

FIGURE 2 - EXTENT 5
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

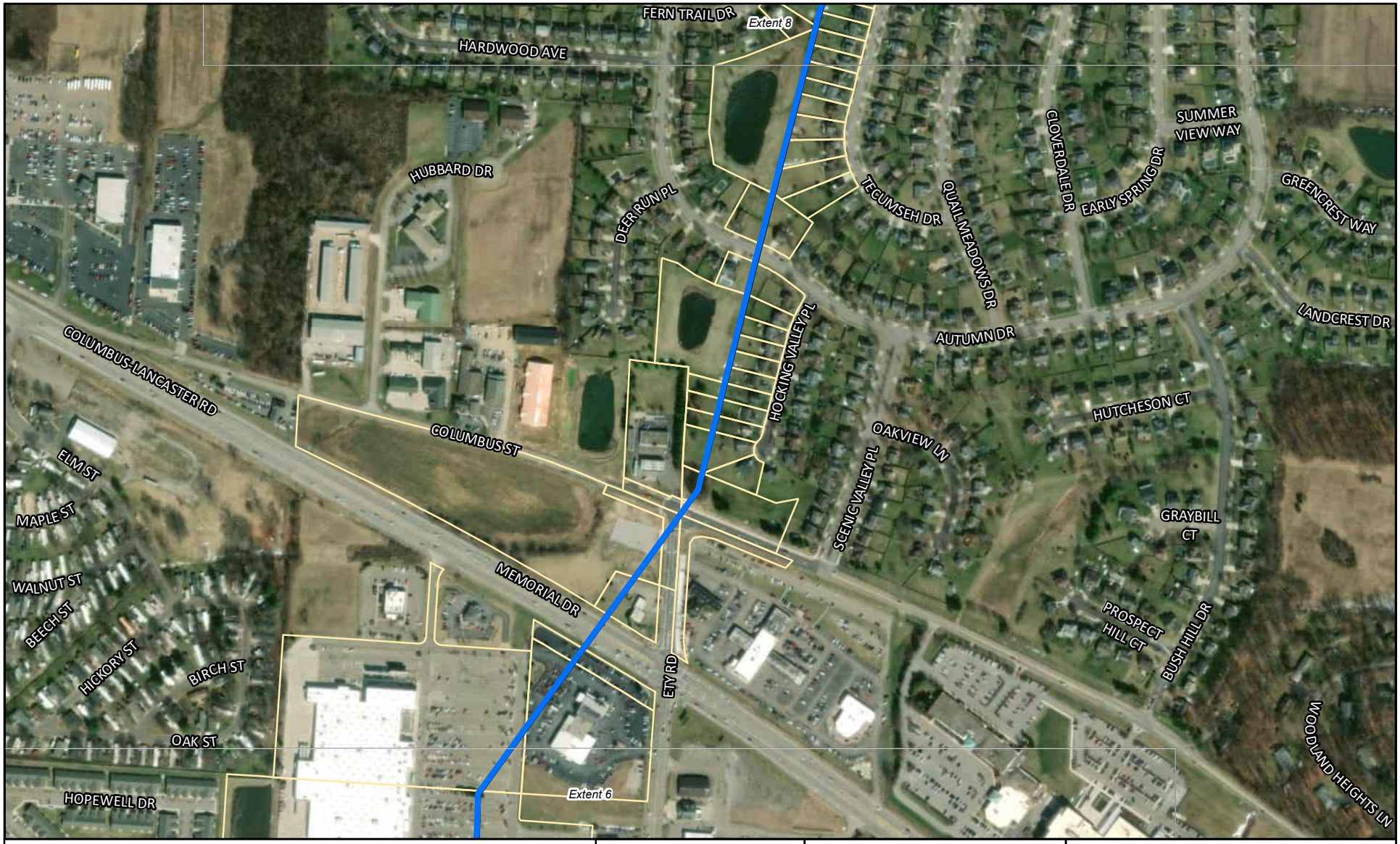
July 02, 2024

FIGURE 2 - EXTENT 6 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

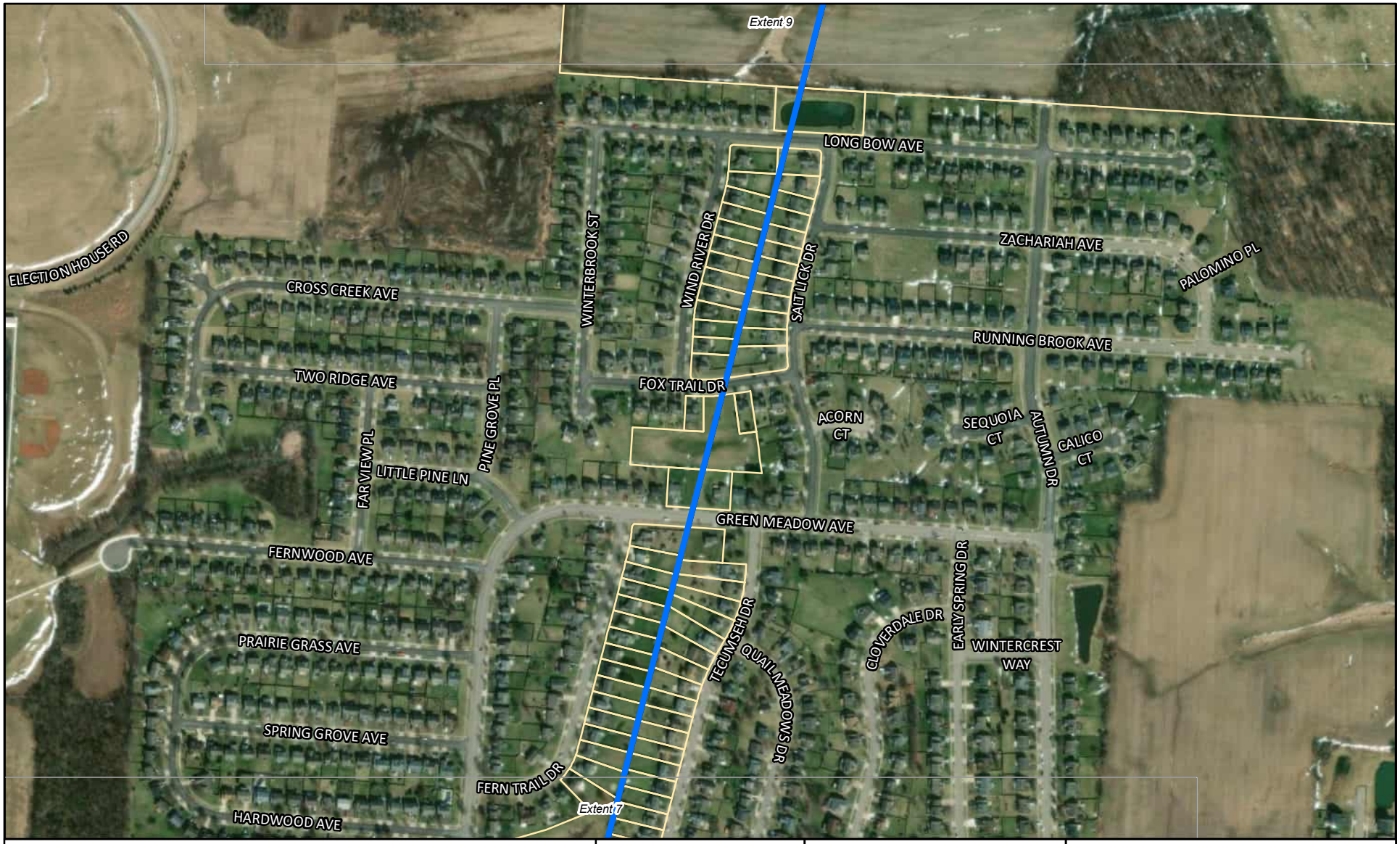
July 02, 2024

FIGURE 2 - EXTENT 7
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

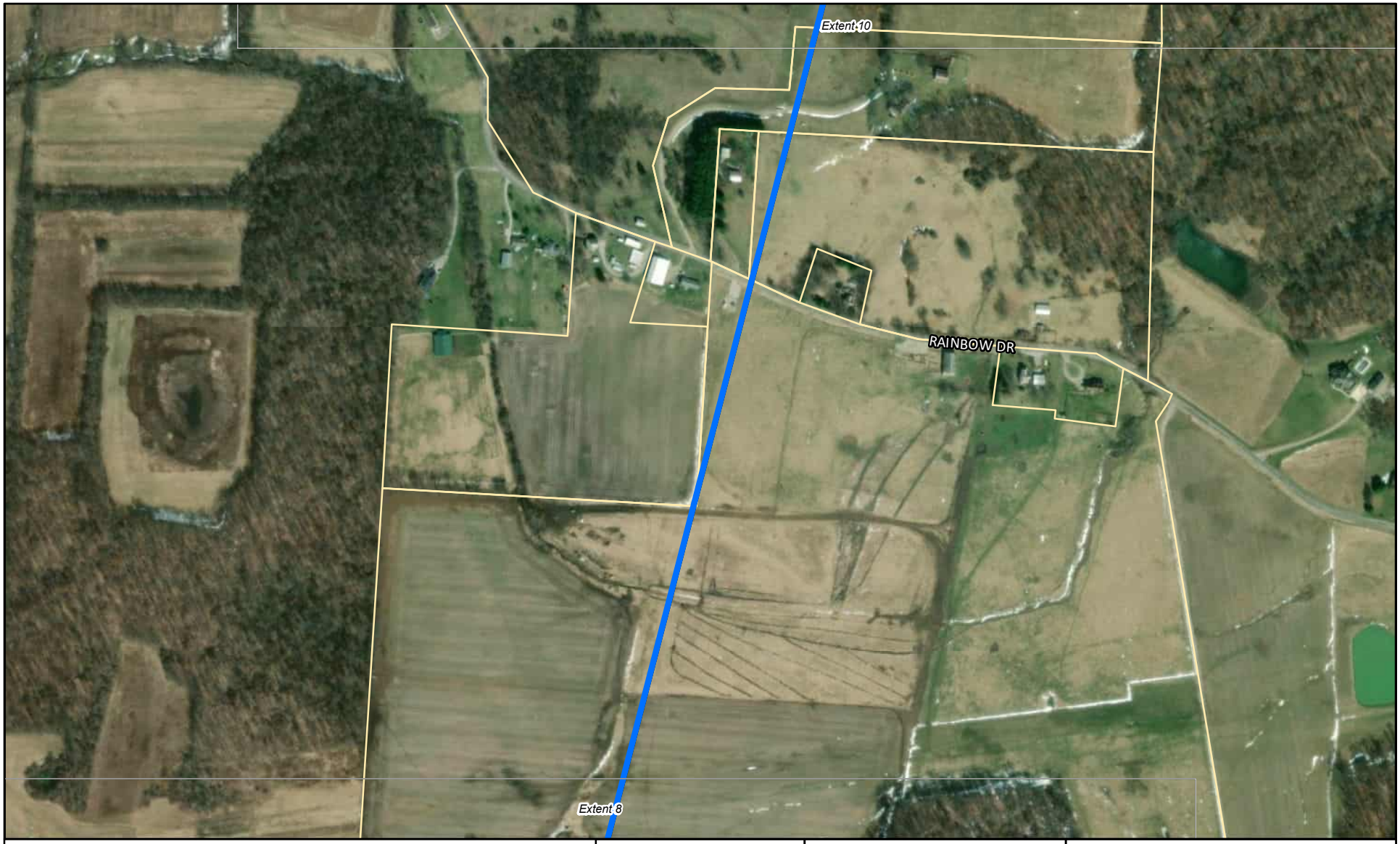
July 02, 2024

FIGURE 2 - EXTENT 8
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station
West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

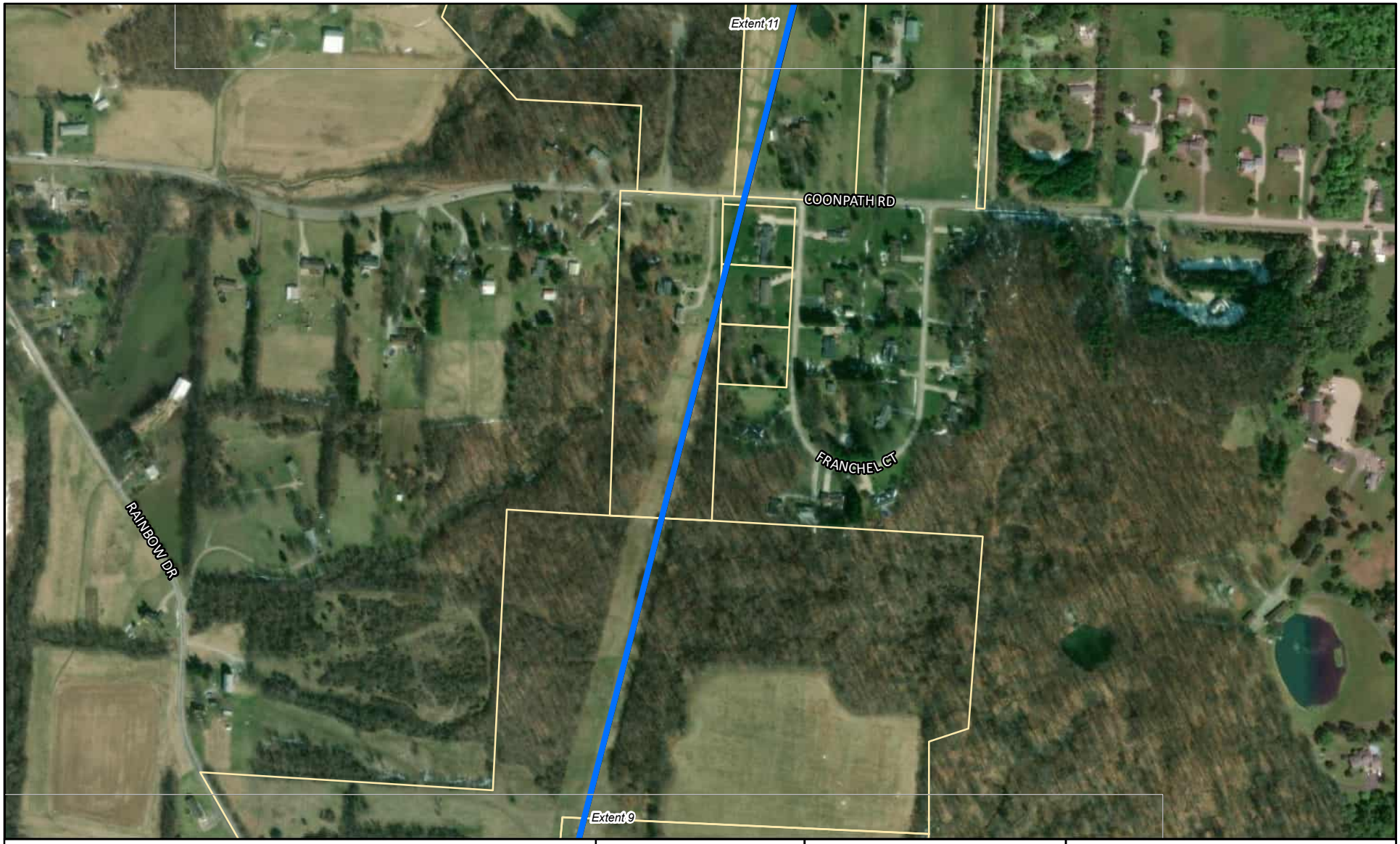
July 02, 2024

FIGURE 2 - EXTENT 9
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

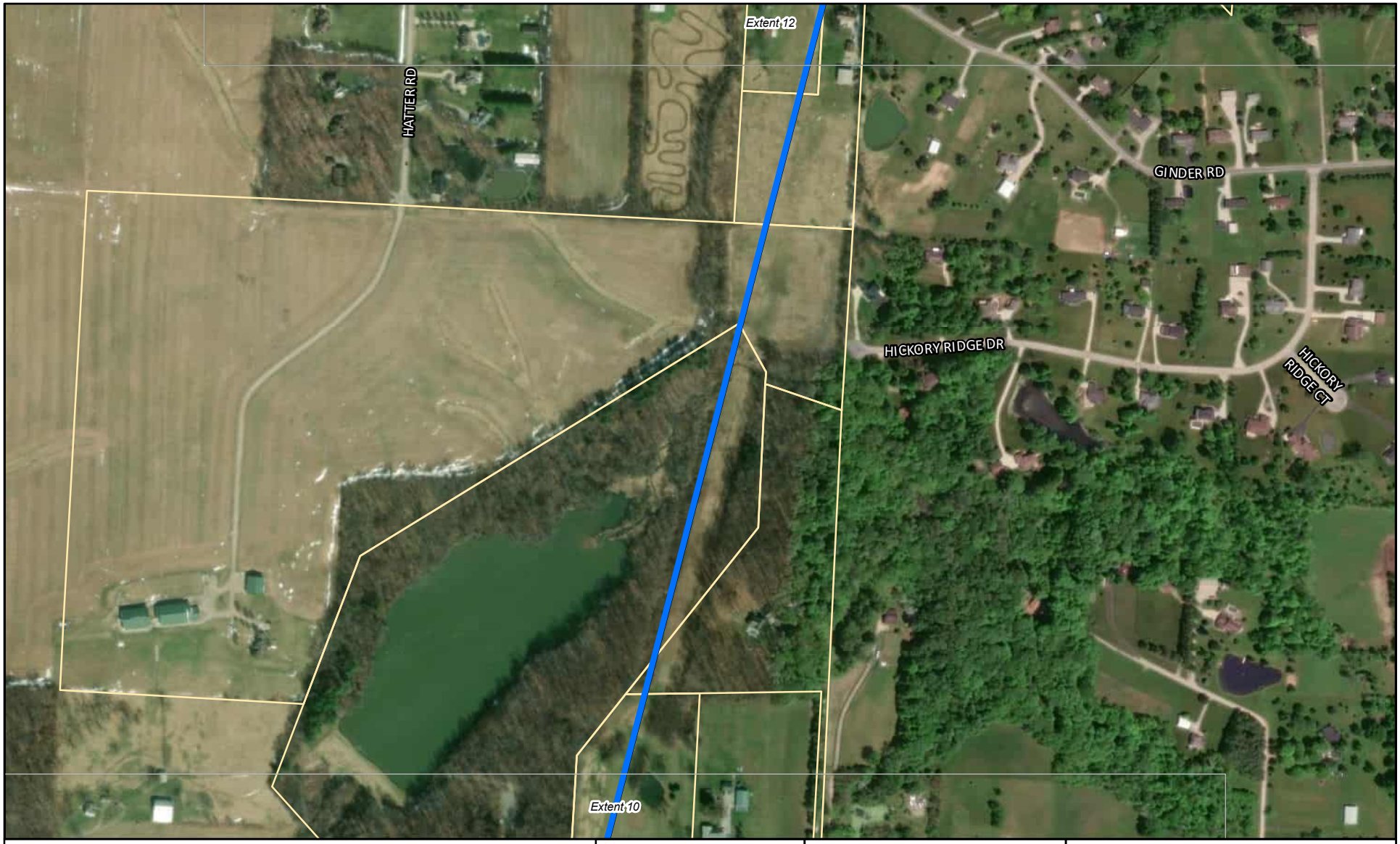
July 02, 2024

FIGURE 2 - EXTENT 10
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

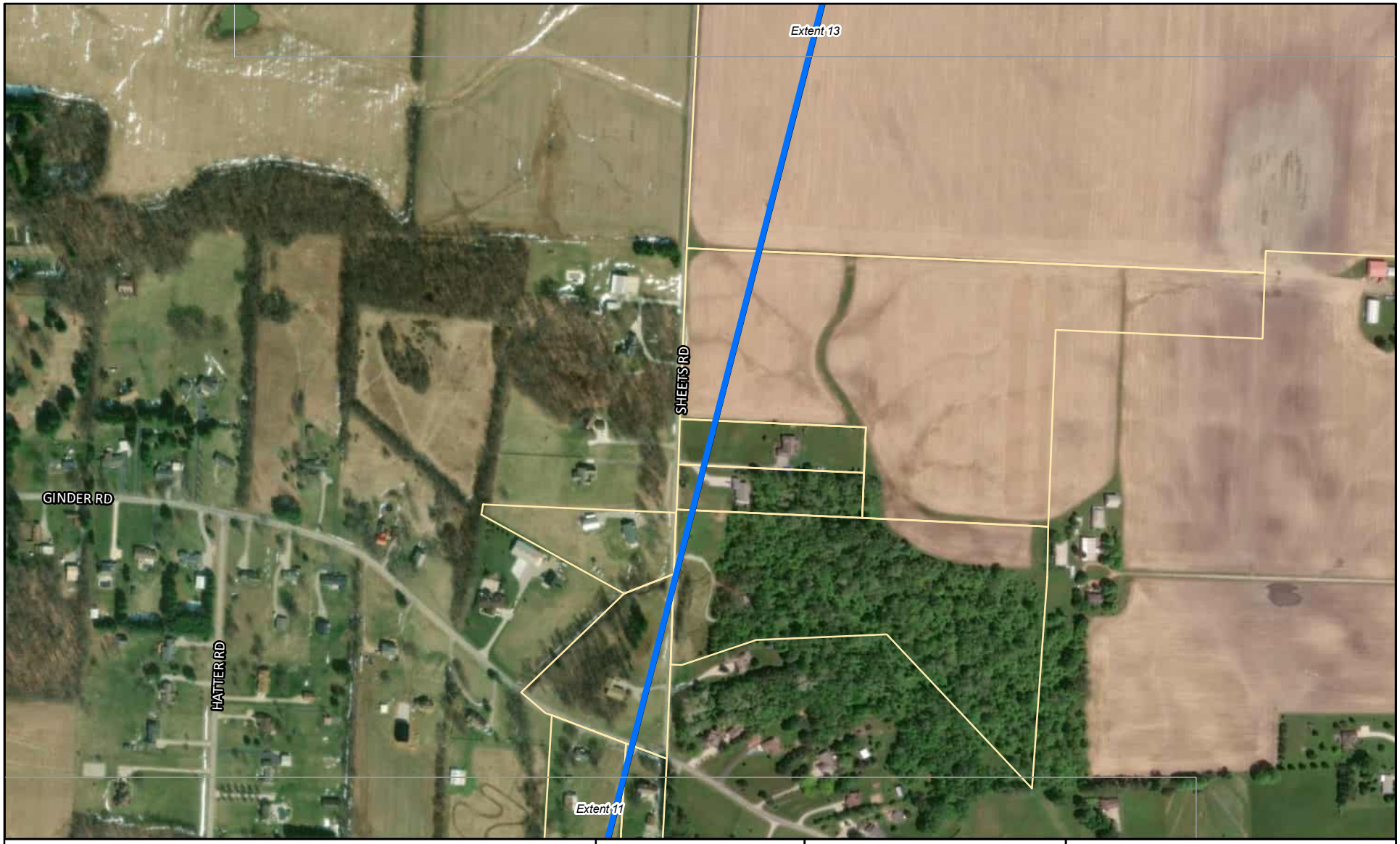
July 02, 2024

FIGURE 2 - EXTENT 11 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

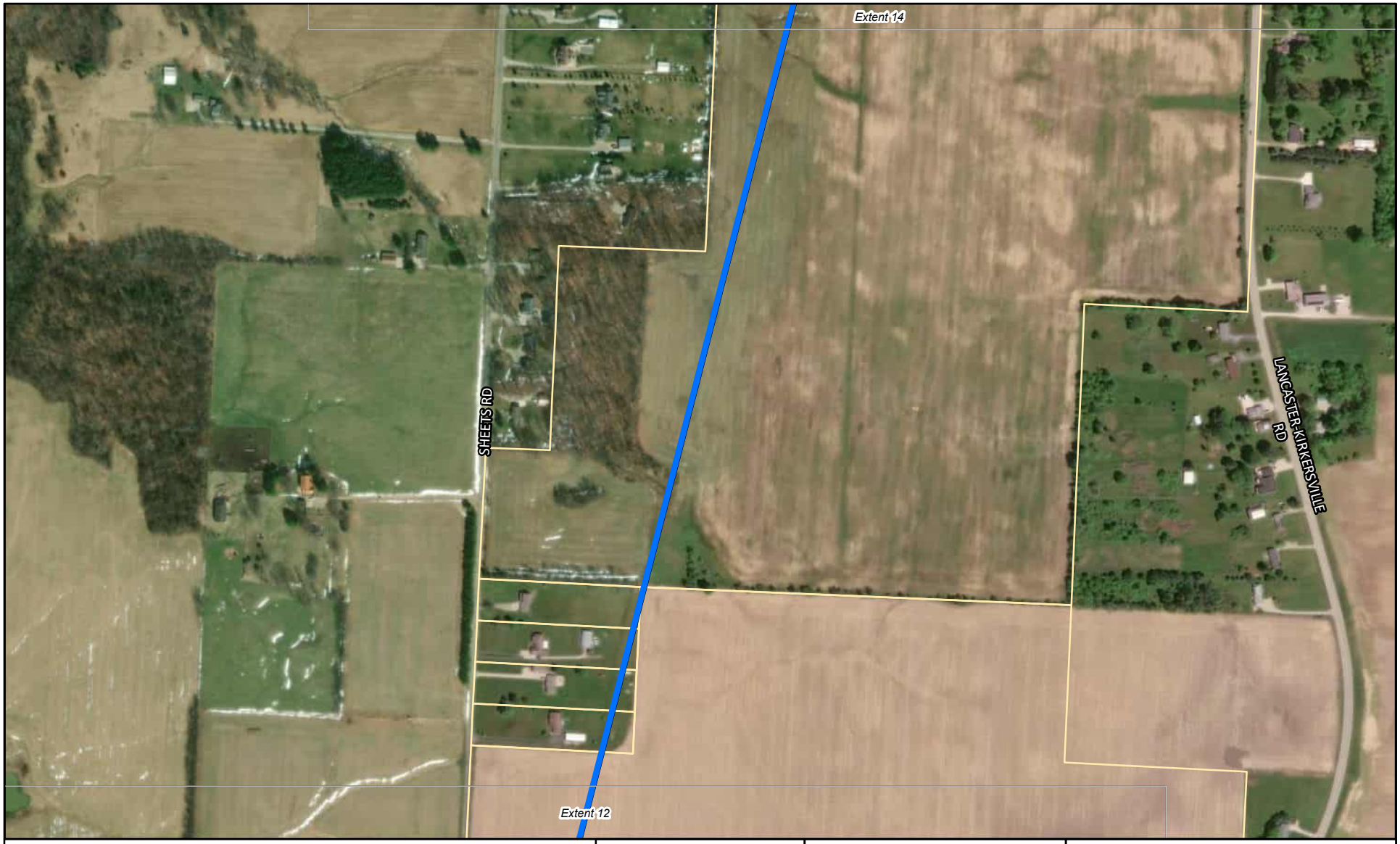
July 02, 2024

FIGURE 2 - EXTENT 12
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

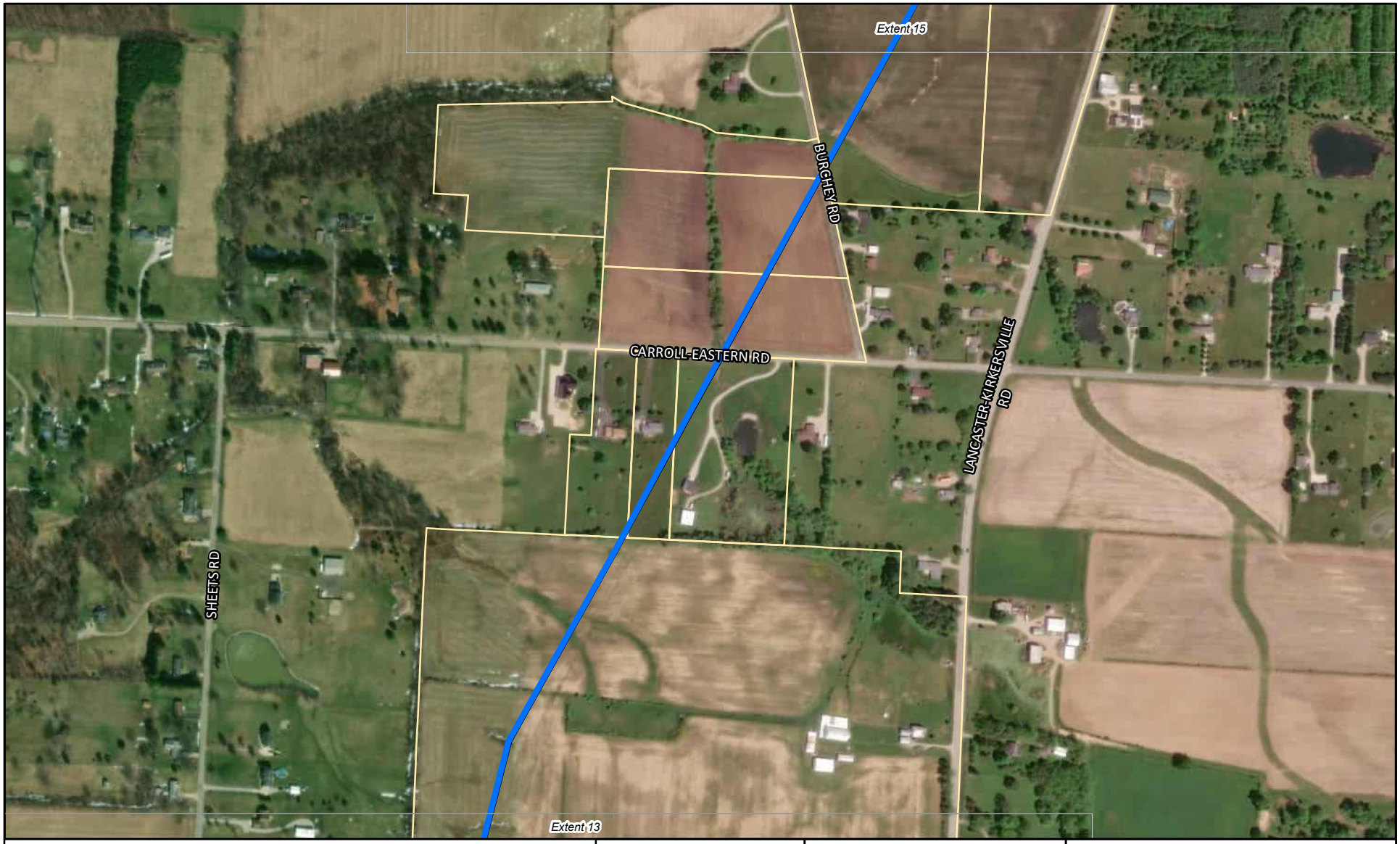
July 02, 2024

FIGURE 2 - EXTENT 13
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

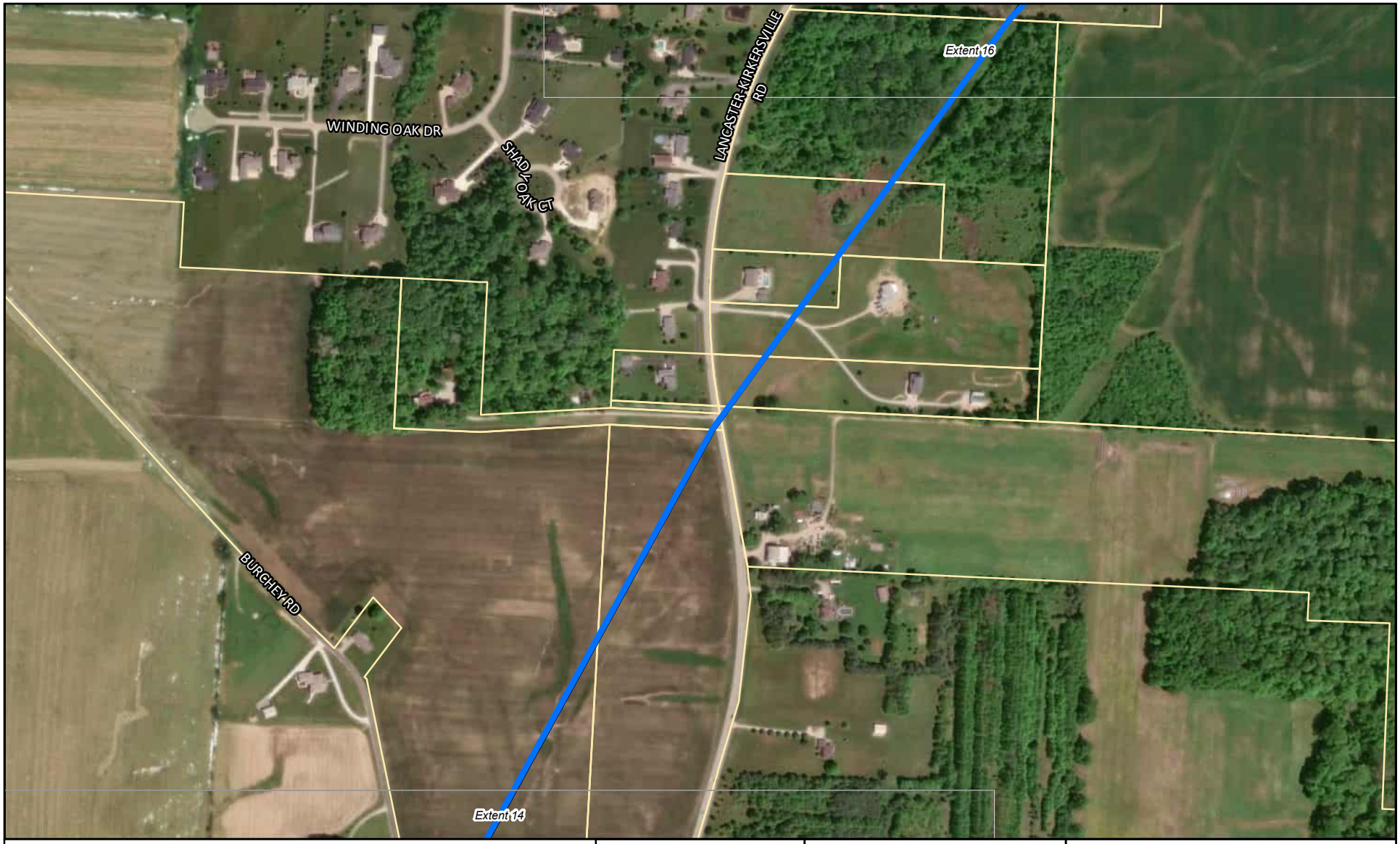
July 02, 2024

FIGURE 2 - EXTENT 14 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

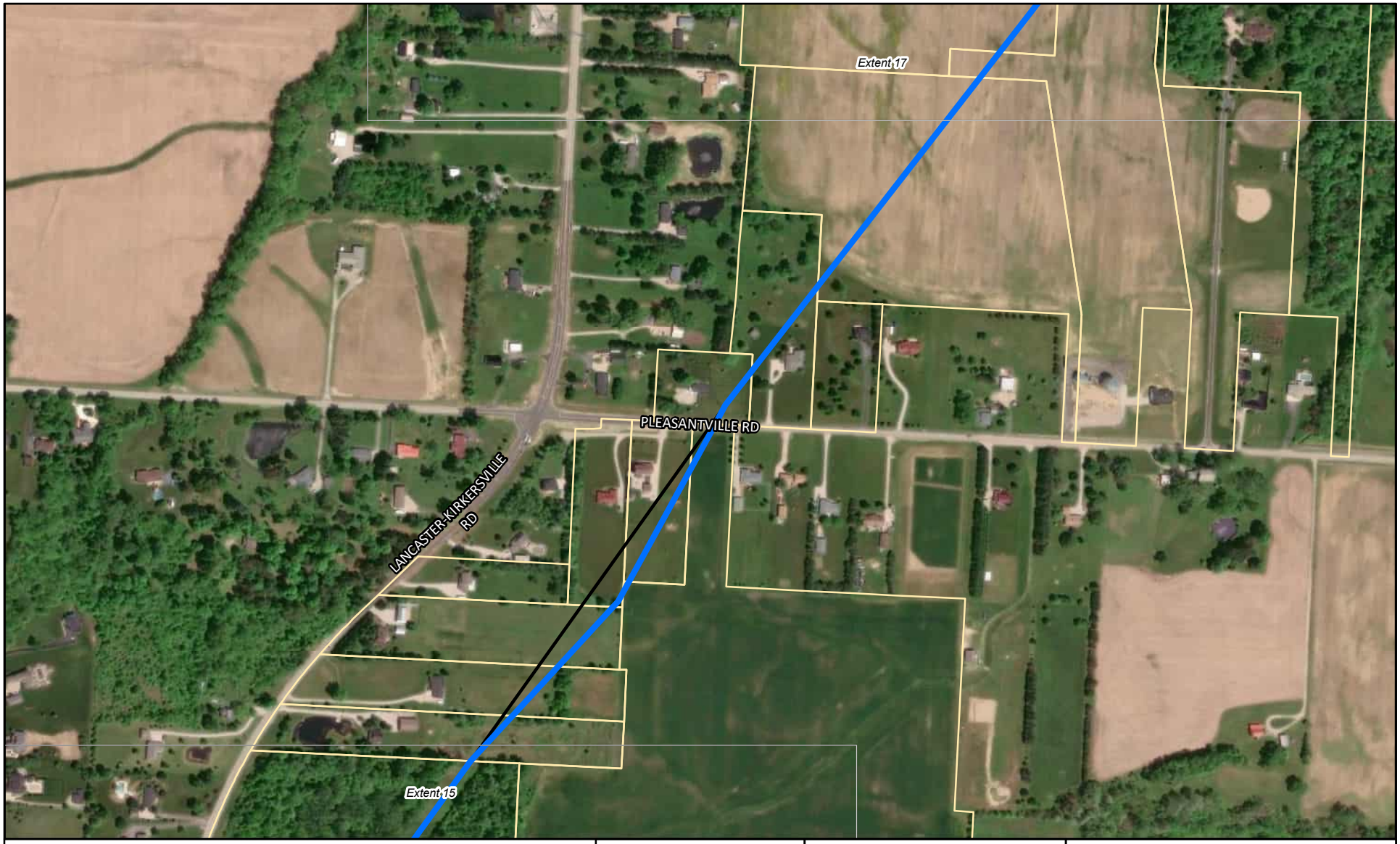
July 02, 2024

FIGURE 2 - EXTENT 15 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 16 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet

▲ Station
West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 17
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet

▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

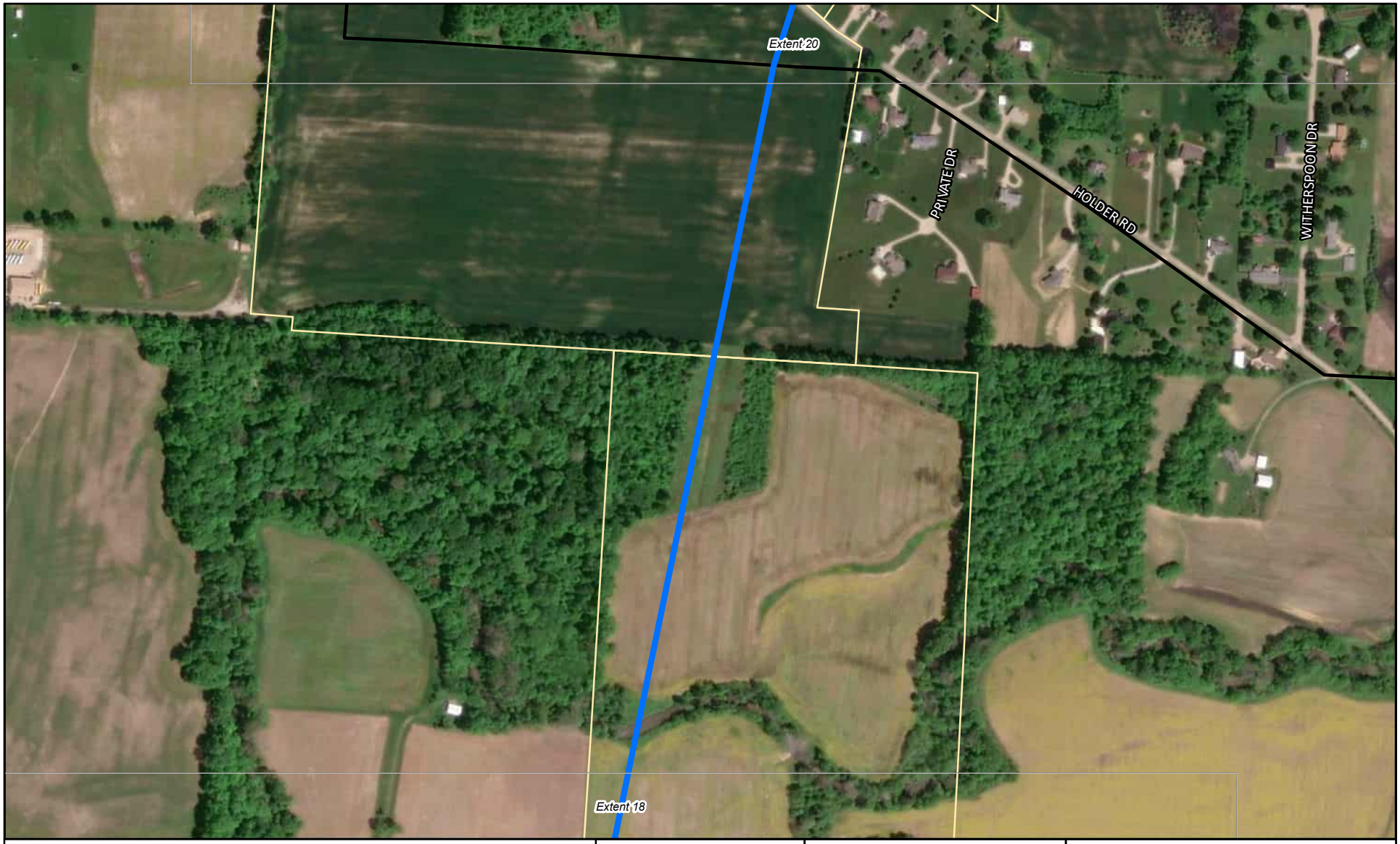
July 02, 2024

FIGURE 2 - EXTENT 18
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

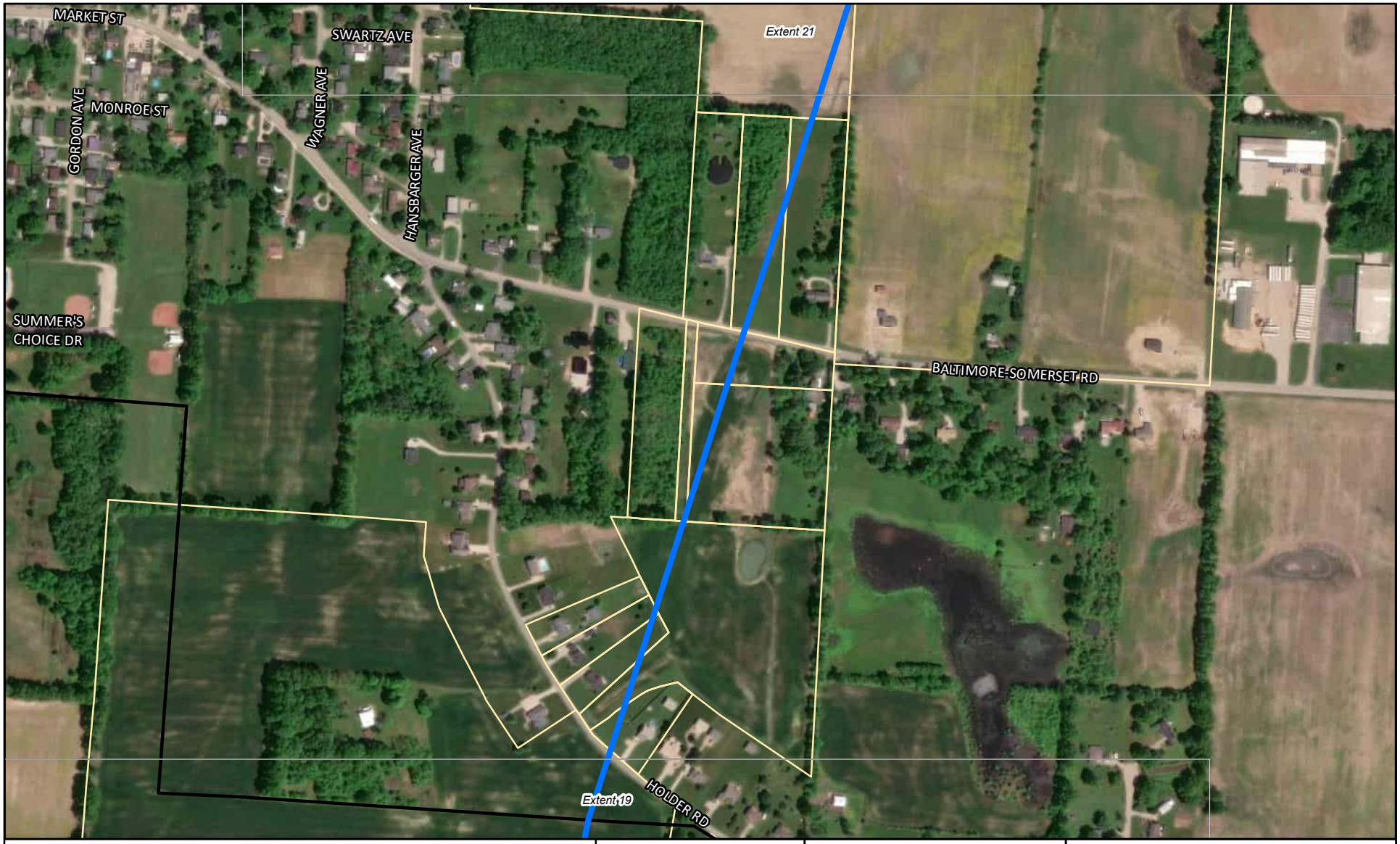
July 02, 2024

FIGURE 2 - EXTENT 19
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 20 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet

▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

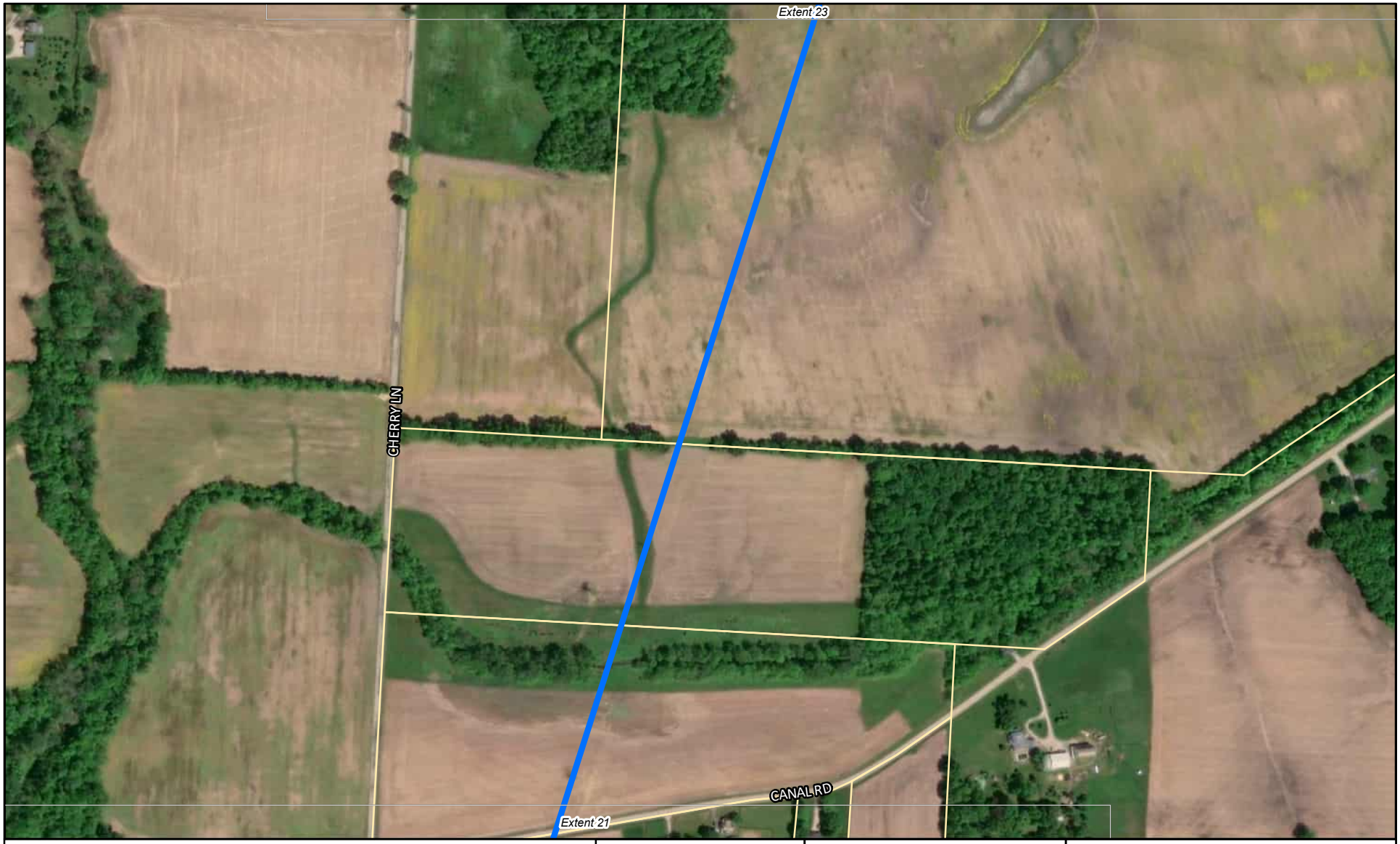
July 02, 2024

FIGURE 2 - EXTENT 21 AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

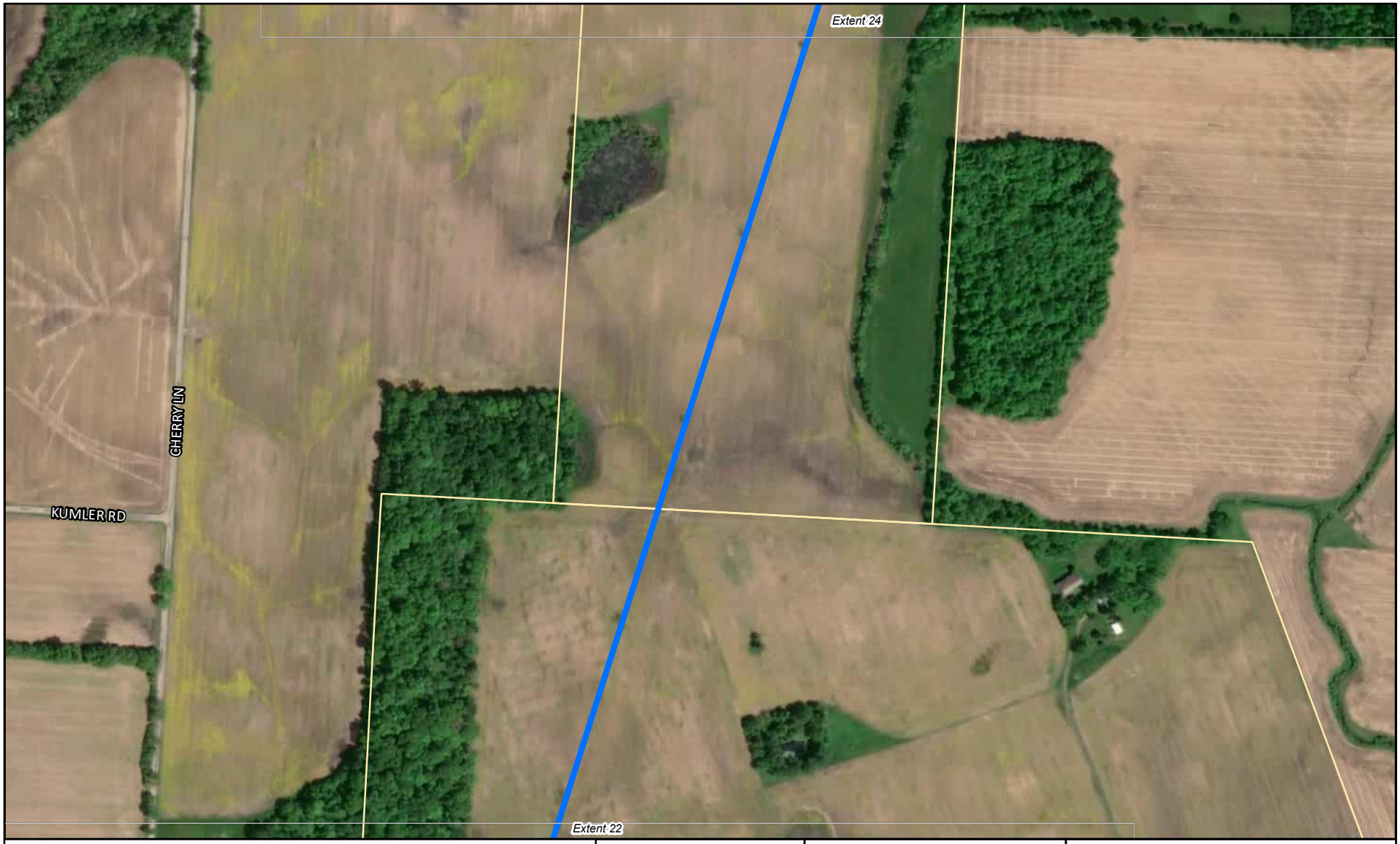
July 02, 2024

FIGURE 2 - EXTENT 22
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

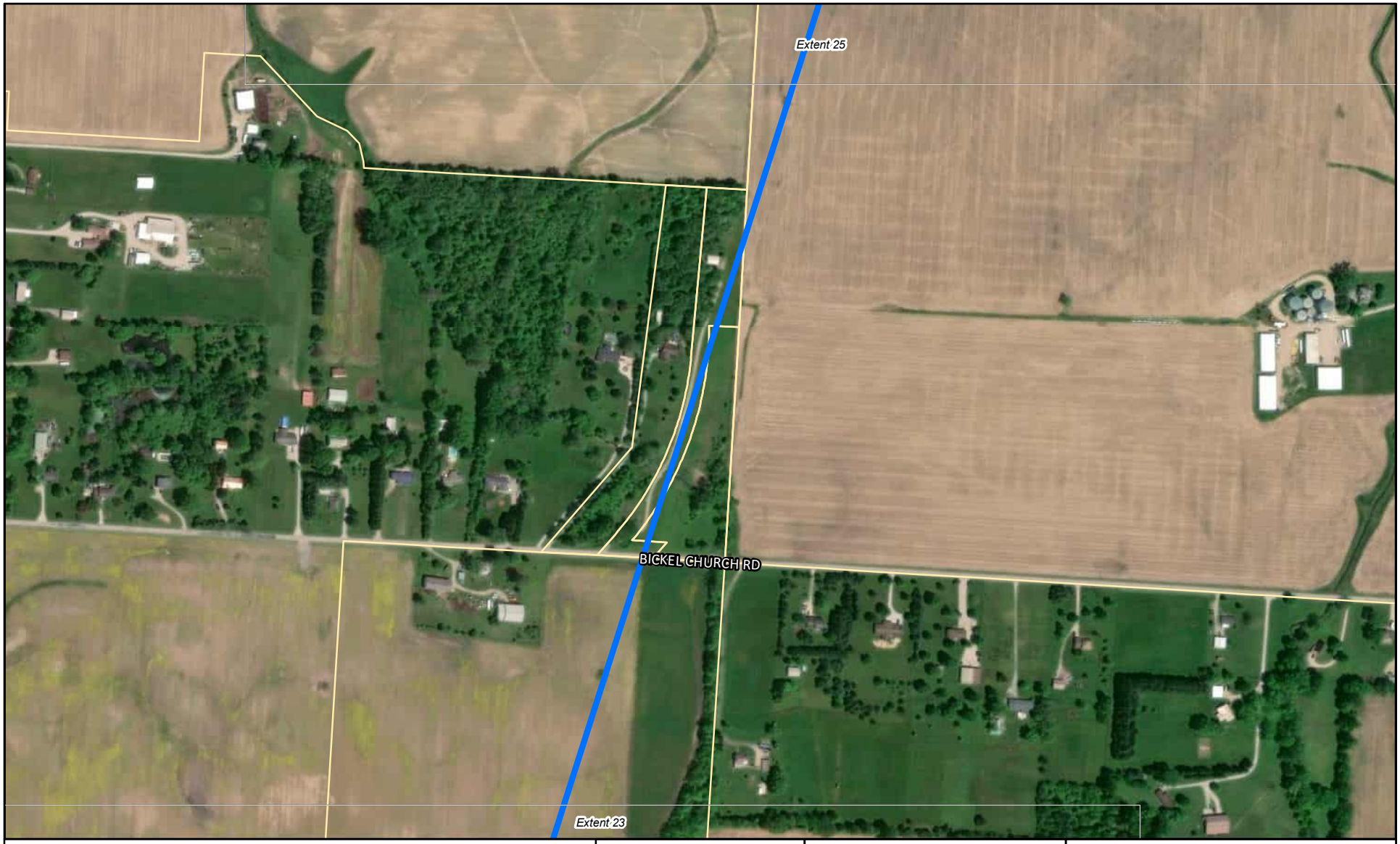
July 02, 2024

FIGURE 2 - EXTENT 23
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

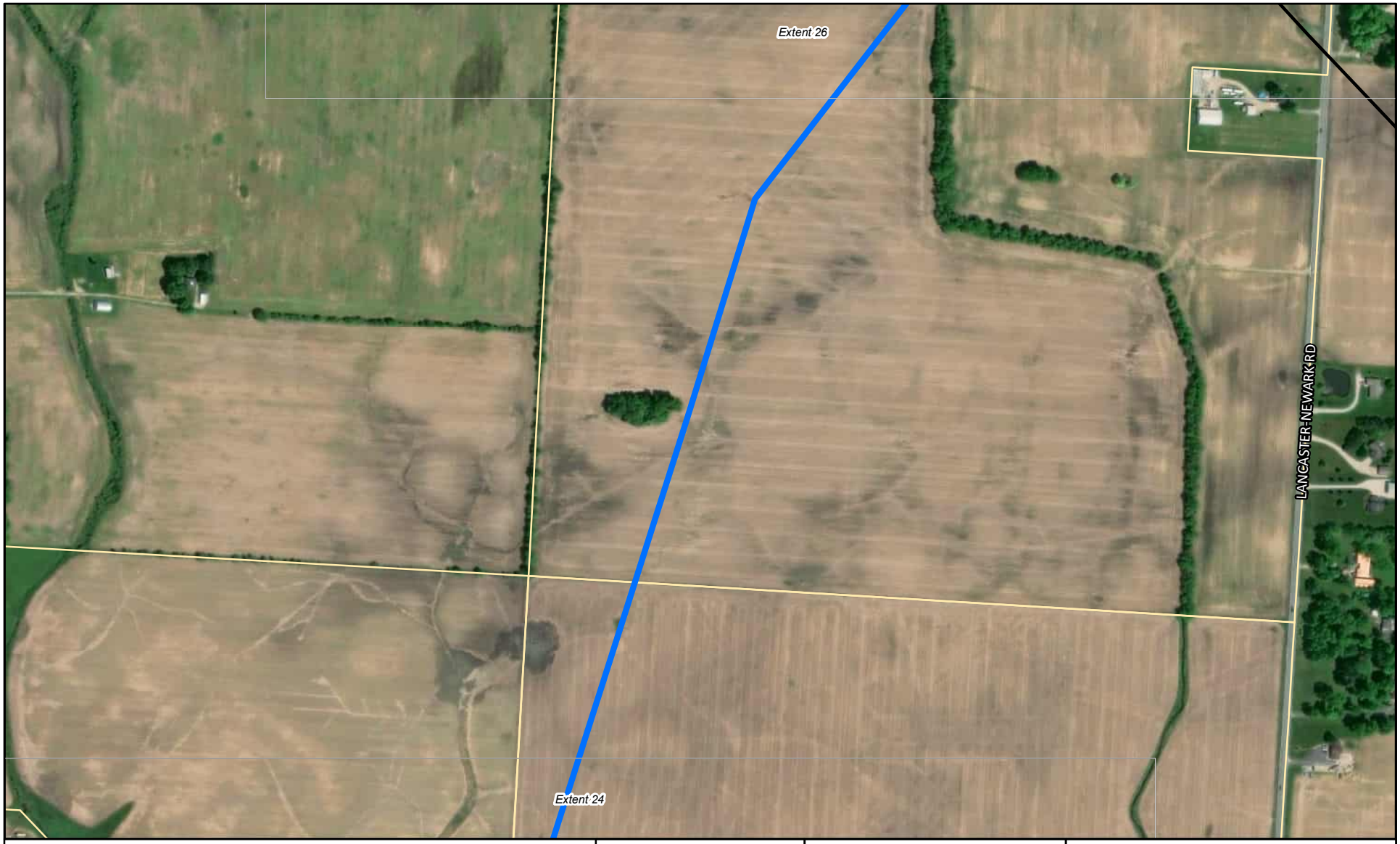
July 02, 2024

FIGURE 2 - EXTENT 24
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station
West Lancaster - South Baltimore - West Millersport
Existing Transmission Lines
Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane Ohio South, Feet

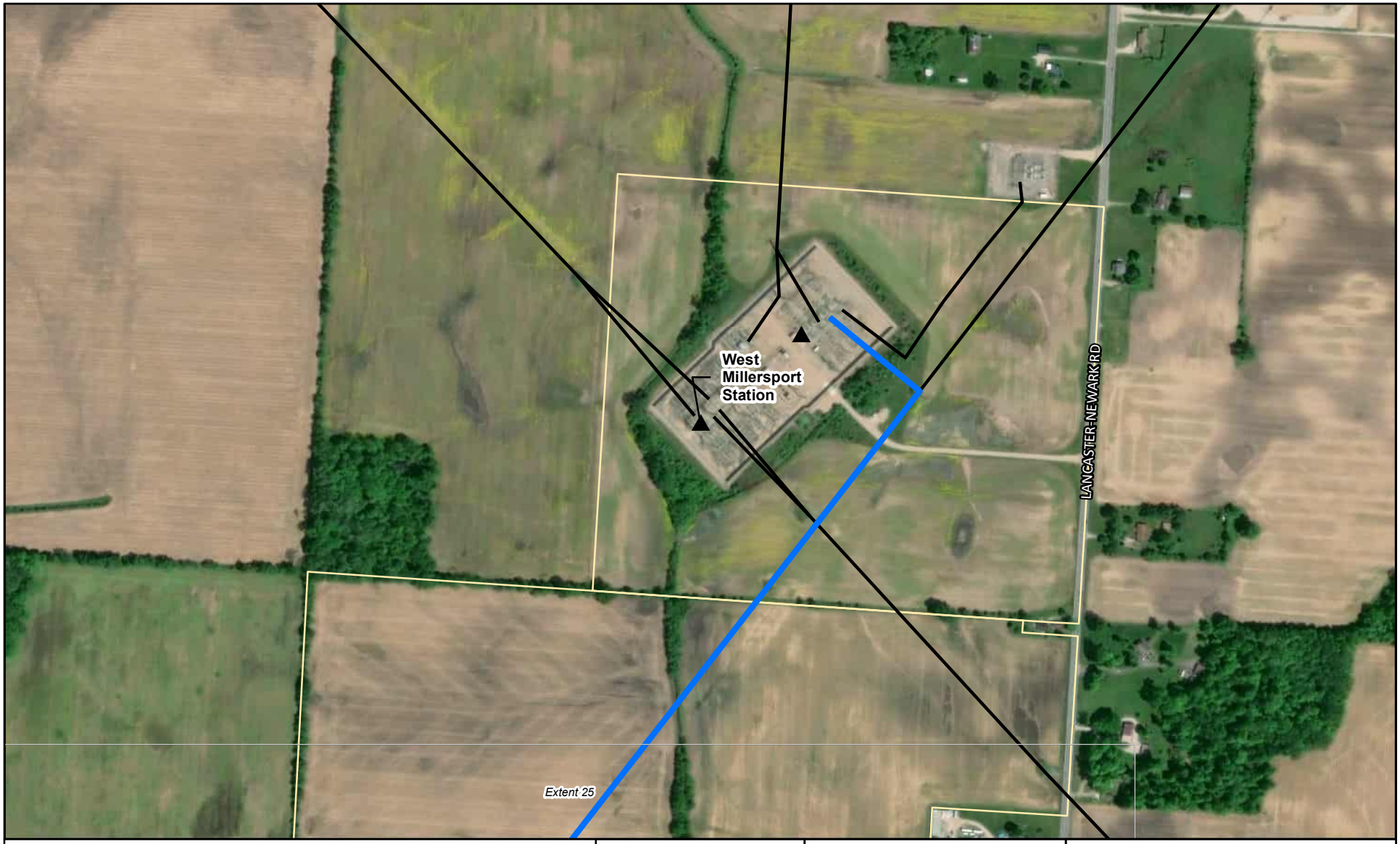
July 02, 2024

FIGURE 2 - EXTENT 25
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet



▲ Station

West Lancaster - South Baltimore - West Millersport

Existing Transmission Lines

Project Parcel Boundary

Data Sources:
AEP & ESRI Imagery, 2021

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

July 02, 2024

FIGURE 2 - EXTENT 26
AERIAL MAP

AEP OHIO

Letter of Notification
West Lancaster – South Baltimore – West Millersport Project

0 500 1,000
Feet

Appendix B PJM Solution

AEP Transmission Zone M-3 Process
West Lancaster – West Millersport 138 kV

Need Number: AEP-2024-OH029

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan May 20, 2024

Previously Presented:

Solutions Meeting 03/15/2024

Needs Meeting 02/16/2024

Project Driver: Equipment Material/Condition/Performance/Risk

Specific Assumption Reference:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 13)

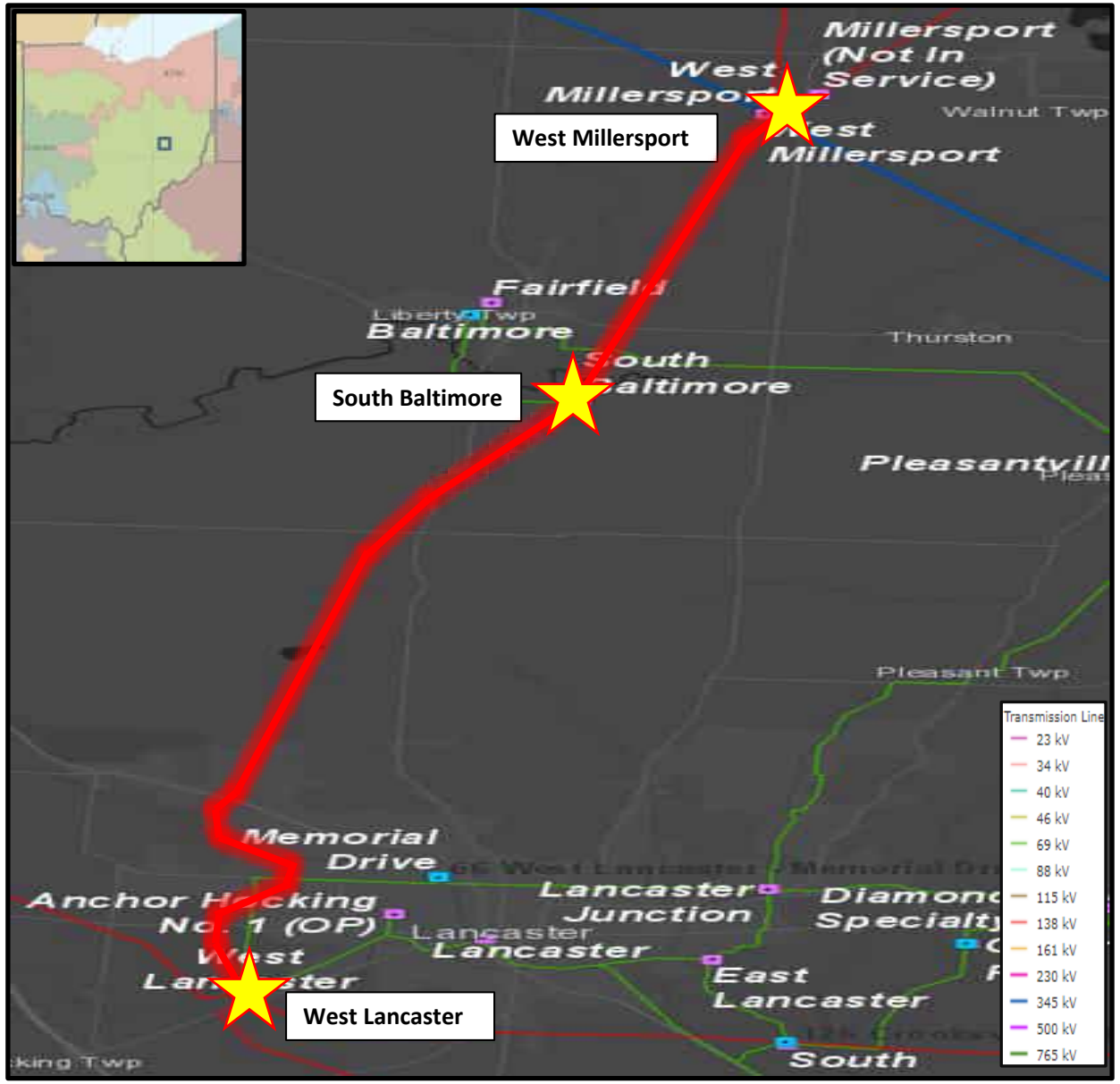
Problem Statement:

Line Name: West Lancaster - South Baltimore - West Millersport 138 kV Line

- Original Install Date (Age): 1954
- Length of Line: 14.4 miles
- Total structure count: 104 of Pole Wood & Pole Steel
    - Wood: 50 from 1950s, 7 from 1960s, 5 from 1970s, 10 from 1980s, and 3 from 1990s.
    - Steel: 29 from 2010s
- Conductor Type: 14.4 miles of 397,500 CM ACSR 30/7 (Lark) from 1954.

Open Conditions:

Currently, there are ~~90~~ 58 unique structures with at least one open condition, which relates to ~~86.5%~~ 55.7% of the structures on the line. There are currently ~~102~~ 112 structures related open conditions including rot, woodpecker, damaged, cracked, loose, vines, split, disconnected, and insect damaged conditions. There are ~~2~~ 3 conductor related open conditions related to broken strands. There are currently 8 open conditions related to broken ground lead wires. There are also 17 hardware related open conditions including broken and missing molding, damaged guy wires, missing guy guards, and burnt and broken insulators.



AEP Transmission Zone M-3 Process
West Lancaster – West Millersport 138 kV

Need Number: AEP-2024-OH029

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan May 20, 2024

Solution:

- **West Lancaster – South Baltimore – West Millersport 138 kV :** Rebuild ~14.4 miles of the line between West Lancaster and West Millersport stations using 1033 ACSS 54/7 conductor. **Estimated Cost: $38.7M (s3308.1)**
- **West Lancaster Station**: Replace existing bus and line risers at the station, upgrade line relays. **Estimated Cost: $1.0M (s3308.2)**
- **South Baltimore Station**: Replace existing bus and line risers at the station, upgrade line relays. While at the station some additional site concerns such as the existing fence will be addressed. **Estimated Cost: $0.7M (s3308.3)**

Total Estimated Cost: $40.4M

Projected In-Service: 10/31/2026

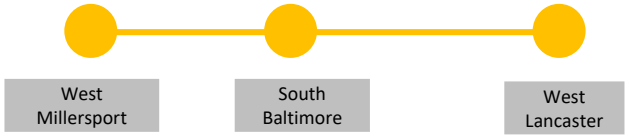
Supplemental Project ID: s3308.1-.3

Projected Status: Scoping

Model: 2028 RTEP

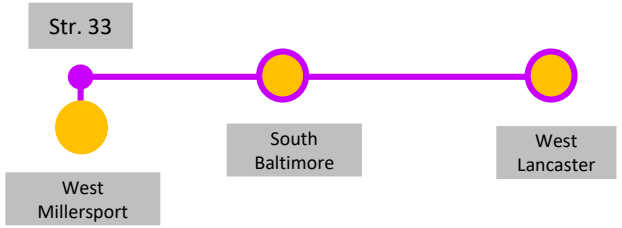
Bubble Diagram

Existing:



Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	

Proposed:



WEST LANCASTER - WEST MILLERSPORT TRANSMISSION LINE REBUILD PROJECT

AEP Ohio representatives plan to strengthen the local transmission system in Fairfield County, addressing the growing power demand in the area and enhancing reliable electric service to area customers. Crews plan to begin construction late 2024 and conclude in fall 2026.

WHAT

This project involves:

- Rebuilding approximately 15 miles of 138-kilovolt transmission line from southwest Lancaster to southwest Millersport.
- Replacing deteriorating wooden poles with single steel poles.
- Upgrading the West Lancaster and South Baltimore substations.

This project requires Ohio Power Siting Board (OPSB) approval.

WHY

The project:

- Modernizes the transmission system originally built in the 1950s.
- Improves reliable electricity for area customers.
- Enhances the line's operational capacity to meet the growing area's power demand.

WHERE

The project area includes:

- Fairfield County
- Hocking, Greenfield, Liberty and Walnut townships
- The cities of Lancaster, Baltimore and Millersport

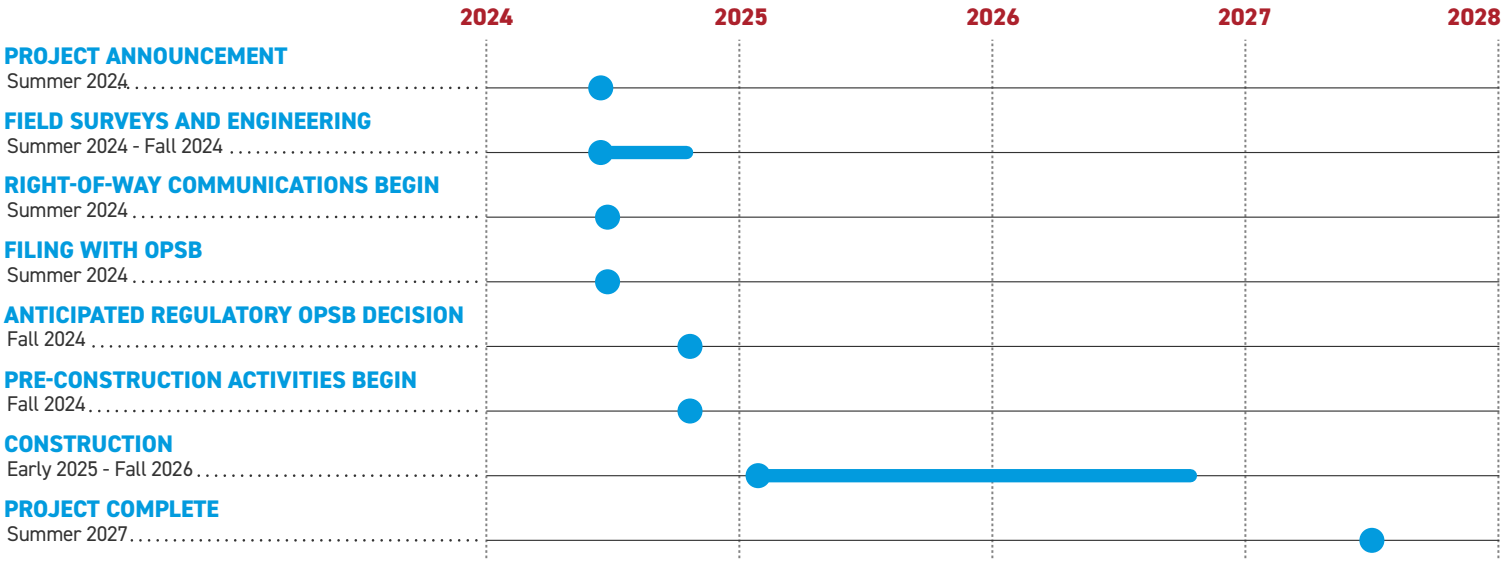
BEFORE CONSTRUCTION

AEP Ohio right-of-way representatives plan to contact affected landowners regarding surveys, field work inside easements along the transmission line route and construction access.

Some pre-construction activities include:

- Trimming or removing woody-stemmed vegetation and removing or relocating non-habitable structures from the right-of-way.
- Installing temporary gates, fencing and access roads.

PROJECT SCHEDULE



*Timeline subject to change.

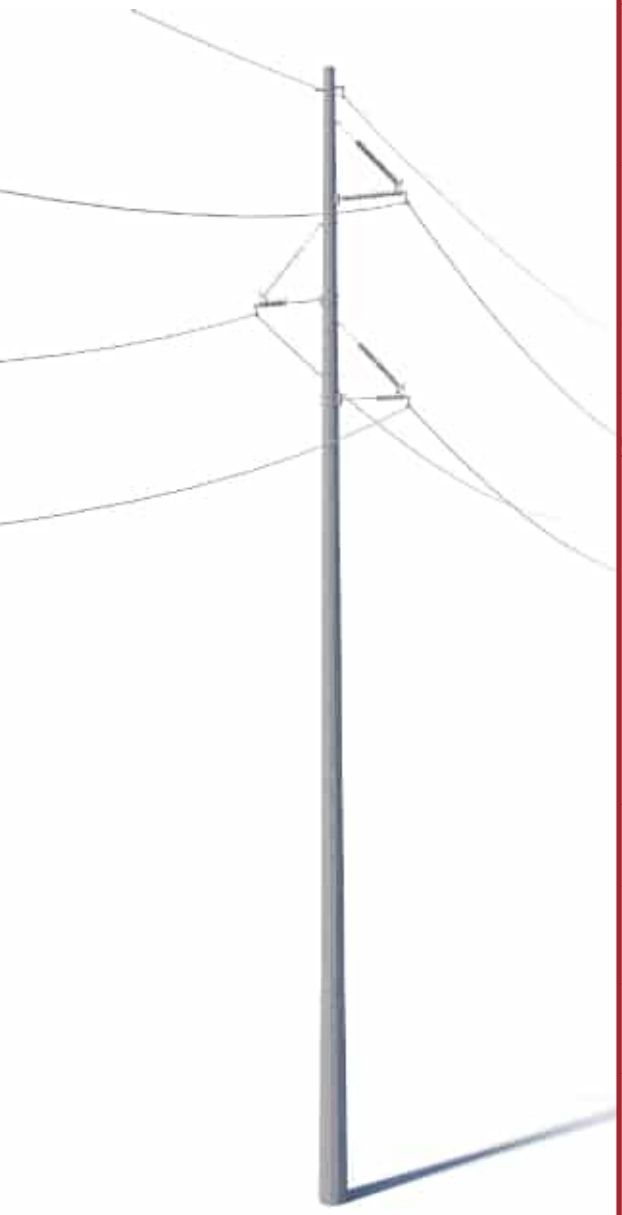
TYPICAL STRUCTURES

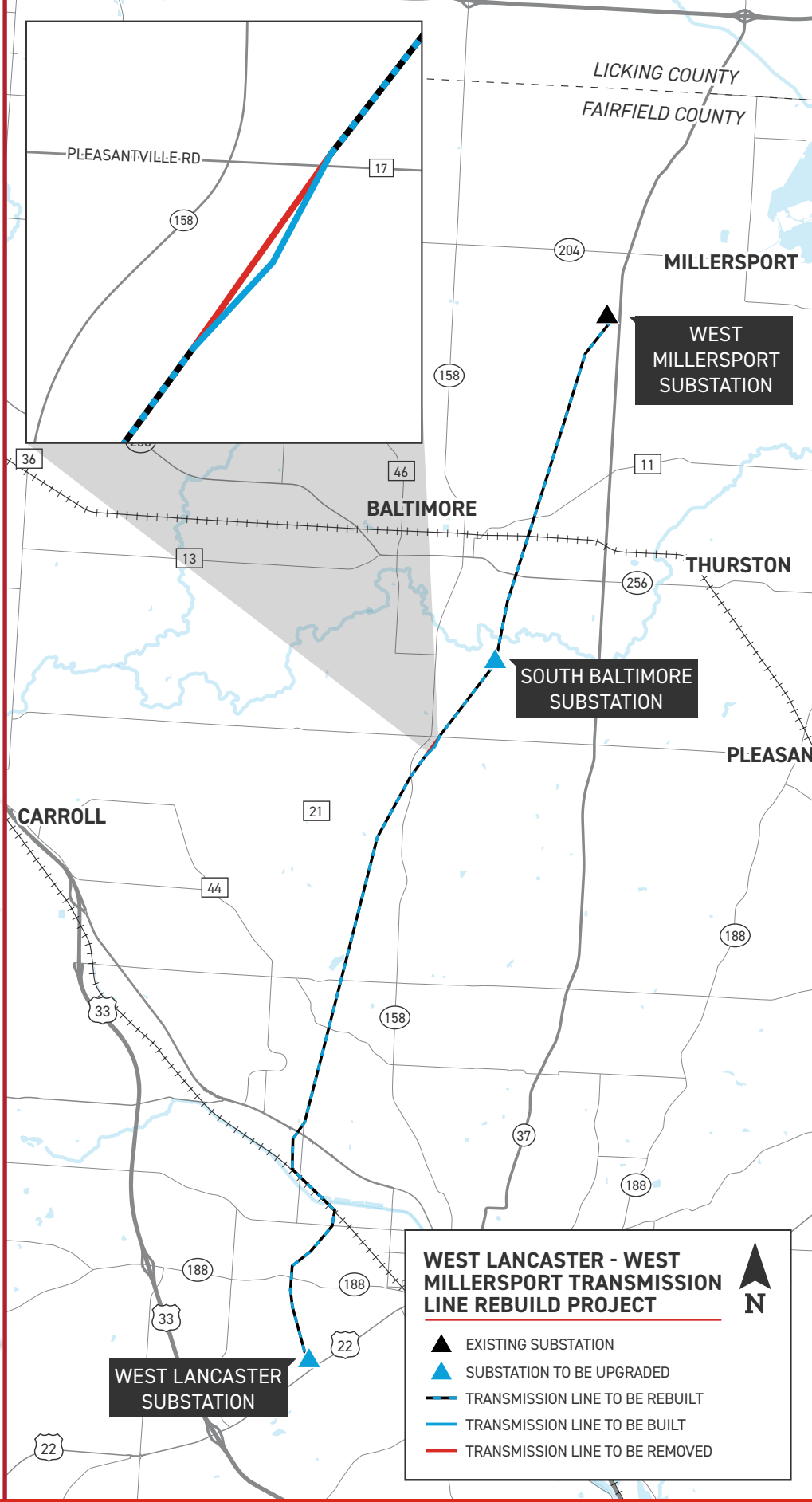
This project involves the use of steel single pole structures.

Typical Pole Height:
Approximately 85 feet*

Typical Right-of-Way Width:
Approximately 100 feet*

*Exact structure, height and right-of-way may vary.





WE VALUE YOUR INPUT. PLEASE SEND COMMENTS AND QUESTIONS TO:
STEPHANIE EISENBERG · WSP REPRESENTING AEP OHIO
OUTREACH@AEPOHIOTRANSMISSION.COM · 614-259-8201
AEPOHIO.COM/LANCASTERMILLERSPORT

AEP OHIO
An AEP Company

06/03/2024

Appendix C Property Agreements

Property Agreements for West Lancaster – South Baltimore – West Millersport 138 kV Rebuild Project		
Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0460904000	Company Property	No
0460012000	Easement	No
0460011900	Easement	No
0460011600	Easement	No
0460012310	Easement	No
0460012300	Easement	No
0460011300	Easement	No
0490251300	Easement	No
0490250600	Easement	No
0490252500	Easement	No
0490252600	Easement	No
0490253700	Easement	No
0490901100	Easement	No
0490252800	Easement	No
0240259110	Easement	No
0210067300	Easement	No
0210067400	Easement	No
0210067410	Easement	No
0240257620	Easement	No
0240260000	Easement	No
0240255200	Easement	No
0240255291	Easement	No
0240255270	Easement	No
0240255260	Easement	No
0240255293	Easement	No
0240255500	Easement	No
0210070400	Easement	No
0210070520	Easement	No
0210902500	Easement	No
0210083200	Easement	No
0210083010	Easement	No
0210084611	Easement	No
0210083900	Easement	No
0210084613	Easement	No
0210084610	Easement	No
0210084500	Easement	No
0210083310	Easement	No
0210083320	Easement	No
0210083330	Easement	No
0210083510	Supplemental Easement	No
0210083511	Easement	No
0150120000	Supplemental Easement	No

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0150119991	Easement	No
0150119990	Supplemental Easement	No
0150119901	Supplemental Easement	No
0150119960	Supplemental Easement	No
0150119910	Supplemental Easement	No
0150119930	Supplemental Easement	No
0150119950	Supplemental Easement	No
0130000610	Supplemental Easement	No
0130000620	Easement	No
0130000630	Easement	No
0130000640	Easement	No
0130000650	Easement	No
0130000400	Easement	No
0130000660	Easement	No
0150120120	Easement	No
0150122110	Easement	No
0150120100	Easement	No
0150122100	Easement	No
0150122310	Easement	No
0150122142	Easement	No
0150122141	Easement	No
0150124100	Easement	No
0150124110	Easement	No
0150124195	Easement	No
0130027600	Easement	No
0130026000	Easement	No
0130026040	Easement	No
0130026030	Easement	No
0130026020	Easement	No
0130026010	Easement	No
0130036500	Easement	No
0130036512	Easement	No
0130036511	Easement	No
0130036580	Easement	No
0130038440	Easement	No
0130038600	Easement	No
0130038700	Easement	No
0130038800	Easement	No
0130036640	Easement	No
0130807000	Easement	No
0130036700	Easement	No
0130036610	Easement	No
0130086900	Easement	No
0130058000	Easement	No

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0130087000	Easement	No
0130087100	Easement	No
0130058300	Easement	No
0130058310	Easement	No
0130057400	Easement	No
0130057450	Easement	No
0130057420	Easement	No
0130058410	Easement	No
0532304600	Easement	No
0532301300	Easement	No
0532292900	Easement	No
0532301400	Easement	No
0532292800	Easement	No
0532301500	Easement	No
0532292700	Easement	No
0532301600	Easement	No
0532292600	Easement	No
0532301700	Easement	No
0532292500	Easement	No
0532301800	Easement	No
0532292400	Easement	No
0532301900	Easement	No
0532292300	Easement	No
0532302000	Easement	No
0532292200	Easement	No
0532302100	Easement	No
0532292100	Easement	No
0532302200	Easement	No
0532292000	Easement	No
0532302300	Easement	No
0532291900	Easement	No
0532291800	Easement	No
0532302400	Easement	No
0532291700	Easement	No
0532302500	Easement	No
0532293000	Easement	No
0532290000	Easement	No
0532248800	Easement	No
0532257500	Easement	No
0532248700	Easement	No
0532253700	Easement	No
0532253800	Easement	No
0532248500	Easement	No
0532248400	Easement	No

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0532253900	Easement	No
0532248300	Easement	No
0532254000	Easement	No
0532235000	Easement	No
0532234900	Easement	No
0532254100	Easement	No
0532254200	Easement	No
0532234800	Easement	No
0532268800	Easement	No
0532234700	Easement	No
0532268700	Easement	No
0532234600	Easement	No
0532268600	Easement	No
0532234500	Easement	No
0532268500	Easement	No
0532234400	Easement	No
0532268400	Easement	No
0532234300	Easement	No
0532268300	Easement	No
0532234200	Easement	No
0532268200	Easement	No
0532234100	Easement	No
0532268100	Easement	No
0532234000	Easement	No
0532231300	Easement	No
0532233900	Easement	No
0532231200	Easement	No
0532231200	Easement	No
0532230200	Easement	No
0532233800	Easement	No
0532233700	Easement	No
0532233600	Easement	No
0532233500	Easement	No
0532233400	Easement	No
0532233300	Easement	No
0532233200	Easement	No
0532233100	Easement	No
0532233000	Easement	No
0532227300	Easement	No
0532220900	Easement	No
0532230100	Easement	No
0532220800	Easement	No
0532003670	Easement	No
0532220700	Easement	No

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0532220600	Easement	No
0532220500	Easement	No
0532220400	Easement	No
0532220300	Easement	No
0532220200	Easement	No
0532220100	Easement	No
0532220000	Easement	No
0532219900	Easement	No
0532219800	Easement	No
0532222100	Easement	No
0532222110	Easement	No
0532003663	Easement	No
0532003606	Easement	No
0532003604	Easement	No
0532003605	Easement	No
0532003662	Easement	No
0532821000	Easement	No
0630001300	Easement	No
0531374100	Easement	No
0630001400	Easement	No
0531372800	Easement	No
0531372100	Easement	No
0531372500	Easement	No
0531372200	Easement	No
0531372600	Easement	No
0531800450	Easement	No
0531010100	Easement	No
0531010016	Easement	No
0531010010	Easement	No
0531010018	Easement	No
0531010014	Easement	No
0531010019	Easement	No
0531237700	Easement	No
0531001400	Easement	No
0531237530	Easement	No
0531233600	Easement	No
0531233500	Easement	No
0531233400	Easement	No
0531237900	Easement	No
0531235100	Easement	No
0531237200	Easement	No
0531237100	Easement	No
0531237300	Easement	No
0531257000	Easement	No

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0531256900	Easement	No
0531257100	Easement	No
0531259400	Easement	No
0531257200	Easement	No
0531259300	Easement	No
0531257300	Easement	No
0531259200	Easement	No
0531257400	Easement	No
0531259100	Easement	No
0531257500	Easement	No
0531259000	Easement	No
0531257600	Easement	No
0531258900	Easement	No
0531257700	Easement	No
0531258800	Easement	No
0531257800	Easement	No
0531258700	Easement	No
0531257900	Easement	No
0531258600	Easement	No
0531258000	Easement	No
0531258500	Easement	No
0531250400	Easement	No
0531250300	Easement	No
0531258400	Easement	No
0531250200	Easement	No
0531258300	Easement	No
0531250100	Easement	No
0531258200	Easement	No
0531250000	Easement	No
0531258100	Easement	No
0531249900	Easement	No
0531249800	Easement	No
0531249700	Easement	No
0531249600	Easement	No
0658000100	Easement	No
0180024700	Easement	No
0180800500	Easement	No
0180025200	Easement	No
0180031000	Easement	No
0180030600	Easement	No
0180031911	Easement	No
0180030660	Easement	No
0180901500	Easement	No
0180800500	Easement	No

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
0180025200	Easement	No
0180031000	Easement	No
0180030600	Easement	No
0180031911	Easement	No
0180030660	Easement	No
0180901500	Easement	No

Line Name: West Lancaster - South Baltimore
Line No.:
Easement No.:

SUPPLEMENTAL EASEMENT AND RIGHT OF WAY

On this ___ day of _____, 2024, _____, whose address is_____, ("Grantor"), whether one or more persons, owns an interest in a tract of real property that is more particularly described lands of the Grantor, situated in the State of Ohio, Fairfield County, Greenfield Township, Tax Parcel Number_____, in that certain document, dated _____ recorded in Instrument Number_____, of the real property records of Fairfield County, Ohio, and such tract is subject to easements and rights-of-way granted in favor of AEP Ohio Transmission Company, Inc..

Ohio Power Company, a(n) Ohio corporation, a unit of American Electric Power, whose principal business address is 1 Riverside Plaza, Columbus, Ohio 43215, ("AEP") is the current owner and holder of the rights, title, and interest, or a portion thereof, granted in or arising under that certain right of way and easement, dated _____, and recorded in Deed Volume _____, Page ___, of the official records of Fairfield County, Ohio (the "Original Easement").

NOW, THEREFORE, in consideration of the sum of ___ and NO/100 Dollars ($___) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor hereby grants, conveys and warrants this Supplemental Easement and Right of Way ("Easement") to AEP for electric transmission, distribution, and communication lines and appurtenant equipment and fixtures, being, in, on, over, under, through and across to supplement the Original Easement insofar as it encumbers such tract of real property owned by Grantor as more particularly described above.

Auditor/Key/Tax Number: _____

The location, width, and boundaries of the easement area are hereby revised, modified, and clarified to be as described and depicted on Exhibit "A", attached hereto and made a part hereof ("Easement Area").

The Easement is also supplemented by the addition of the following language:

AEP, its successors and assigns, are granted the right to construct, reconstruct, operate, maintain, alter, inspect and patrol (by ground or air), protect, repair, replace, renew, upgrade, relocate within the Easement Area, remove and replace poles, towers, and structures, made of wood, metal, concrete or other materials, including crossarms, guys, anchors, anchoring systems, grounding systems, underground conduits, ducts, vaults, transformers, pedestals, risers, pads, communications facilities, and all other appurtenant equipment and fixtures, and to string conductors, wires and cables. The electric facilities may consist of a variable number of towers, poles, wires, guys, anchors and associated fixtures, including the right to enlarge, and may transmit electricity of any voltage or amperage, together with the right to add to said facilities from time to time, and the right to do anything necessary, useful or convenient for the enjoyment of the Easement Area herein granted, together with the privilege of removing at any time any or all of said facilities erected on the Easement Area.

AEP and its successors and assigns, shall have the right, in AEP's reasonable discretion, to cut down, trim, and otherwise control, using herbicides or tree growth regulators, or other means, and at AEP's option, to remove from the Easement Area any and all trees, overhanging branches, vegetation, brush, including all root systems or other obstructions. AEP shall also have the right to cut down, trim, remove, and otherwise control trees situated on lands of the Grantor which adjoin the Easement Area, when in the reasonable opinion of AEP those trees may endanger the safety of, or interfere with the construction, operation or maintenance of AEP's facilities or ingress or egress to, from or along the Easement Area.

AEP and its successors and assigns are granted the right of unobstructed ingress and egress, at any and all times, on, over, across, along and upon the Easement Area, and across the adjoining lands of Grantor as may be reasonably necessary to access the Easement Area for the above referenced purposes.

In no event shall Grantor, its heirs, successors, and assigns plant or cultivate any trees or place, construct, install, erect or permit any temporary or permanent building, structure, improvement or obstruction including but not limited to, storage tanks, billboards, signs, sheds, dumpsters, light poles, water impoundments, above ground irrigation systems, swimming pools or wells, or permit any alteration of the ground elevation, over or within the Easement Area. AEP may, at Grantor's cost, remove any structure or obstruction if placed within the Easement Area and may re-grade any alterations of the ground elevation within the Easement Area. AEP shall repair or pay Grantor for actual damages to growing crops, fences, gates, field tile, drainage ways, drives, or lawns caused by AEP in the exercise of the rights herein granted.

The failure of AEP to exercise any of the rights granted herein, including but not limited to the removal of any obstructions from the Easement Area, shall not be deemed to constitute a waiver of the rights granted herein and the removal of any facilities from the Easement Area shall not be deemed to constitute a permanent abandonment or release of the rights granted herein.

Except as modified by this Supplemental Easement and Right of Way, all terms and provisions of the Original Easement and all rights arising in connection with the Original Easement shall remain

in full force and effect, and the Original Easement shall keep its priority in title as of the date of its recording. Those provisions and rights are expressly ratified, reaffirmed by and incorporated within this Supplemental Easement and Right of Way. The Original Easement along with this Supplemental Easement and Right of Way shall for all purposes function as a single instrument, however, to the extent any terms or provisions of the Original Easement conflict with, limit or are inconsistent with any term or provision of the Supplemental Easement and Right of Way, the terms and provisions of this Supplemental Easement and Right of Way shall control. Nothing herein will in any manner vary, change, modify, or restrict the rights and privileges that AEP may have acquired through any instrument other than the Original Easement or by any other means.

The terms and conditions as supplemented by this instrument, are the complete agreement, expressed or implied between the parties hereto and shall inure to the benefit of and be binding on their respective successors, assigns, heirs, executors, administrators, lessees, tenants, licensees, and legal representatives.

This instrument may be executed in counterparts, each of which will be deemed an original, but all of which taken together will constitute one and the same instrument.

Any remaining space on this page intentionally left blank. See next page(s) for signature(s).

IN WITNESS WHEREOF, the Grantor has executed this Easement effective the day, month and year first above written.

GRANTOR

_____

By:
Title:

State of §

County of §

This instrument was acknowledged before me on the _____ day of _____, 2023, by Karen L. Osborn, Trustee of the Steiger Family Trust.

_____

Notary Public
Print Name: _____
My Commission Expires:_____

This instrument prepared by Thomas G. St. Pierre, Associate General Counsel - Real Estate, American Electric Power Service Corporation, 1 Riverside Plaza, Columbus, OH 43215 for and on behalf of Ohio Power Company, a unit of American Electric Power.

When recorded return to: American Electric Power - Transmission Right of Way, 8600 Smiths Mill Road, New Albany, OH 43054.

Appendix D Agency Coordination

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

April 17, 2024

Project Code: 2024-0064491

Dear Olivia Speckman:

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 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: The proposed project is in the vicinity of one or more confirmed records of Indiana bats and/or northern long-eared bats. 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. Please note that, because Indiana bat and/or northern long-eared bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for these species.

Federally Proposed Species: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (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, Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.ohio.gov.

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,

Erin Knoll
Field Office Supervisor

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

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, Ohio 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

April 26, 2024

Olivia Speckman
V3 Companies
619 North Pennsylvania Street
Indianapolis, Indiana 46204

Re: 24-0500_West Lancaster - South Baltimore - West Millersport 138kV Rebuild

Project: The proposed project involves rebuilding approximately 14.4 miles of the West Lancaster – South Baltimore – West Millersport 138 kV Transmission Lines.

Location: The proposed project is located in Liberty, Walnut, Greenfield, and Pleasant townships, Fairfield County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following data within one mile of the project area:

Cerulean Warbler (*Setophaga cerulea*), SC
Kidneyshell (*Ptychobranchus fasciolaris*), SC
Great Blue Heron Rookery
Appalachian oak forest plant community
Oak-maple forest plant community

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. Records for high quality plant communities indicate the presence of sites that are in our inventory of the best remaining examples of Ohio's pre-settlement ecosystems.

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Features searched include locations of rare and endangered plants and animals determined to be of value to the conservation of their species, high quality plant communities, animal breeding assemblages, and outstanding geological features.

The species and features listed above are not recorded within the boundaries of the specified project area. However, 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 project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. Because presence of state endangered bat species has been established in the 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 endangered 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. However, these species are also dependent on the forest structure surrounding roost trees. 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 $\geq$ 20 if possible.

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.

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2022), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional

malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the northern brook lamprey (*Ichthyomyzon fossor*), a state endangered fish, and the popeye shiner (*Notropis ariommus*), a state endangered fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the northern harrier (*Circus hudsonius*), 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.

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

In reply, refer to
2024-FAI-60977

May 11, 2024

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

RE: West Lancaster-South Baltimore-West Millersport 138kV Rebuild Project, Walnut, Liberty, Greenfield, and Hocking Townships, Fairfield County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received April 12, 2024, regarding the proposed West Lancaster-South Baltimore-West Millersport 138kV Rebuild Project, Walnut, Liberty, Greenfield, and Hocking Townships, Fairfield County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Archaeological Investigations for the 15.8 km (9.8 mi) West Lancaster-South Baltimore-West Millersport 138kV Rebuild Project in Walnut, Liberty, Greenfield, and Hocking Townships, Fairfield County, Ohio* by Ryan J. Weller (Weller & Associates, Inc., 2024). This project is related to a rebuild of the West Lancaster-South Baltimore 138kV transmission line located in the north and central part of Fairfield County, Ohio. The northern terminus is at the South Baltimore Station and the southern terminus is at the West Lancaster Station.

A literature review, visual inspection, surface collection, shovel probing, and shovel test unit excavations were completed as part of the investigations. Portions of the project area had been the subject of previous investigations. Sixteen (16) previously identified archaeological sites, Ohio Archaeological Inventory (OAI) sites #33FA0031, 33FA0100, 33FA0101, 33FA0177, 33FA0178, 33FA0180, 33FA0181, 33FA0419, 33FA1705, 33FA1706, 33FA1906, 33FA1918, 33FA1919, 33FA1930, 33FA2271, and 33FA2272, are located within or immediately adjacent the project area. These investigations reidentified seven (7) of the previously identified archaeological sites, OAI sites #33FA0180, 33FA0181, 33FA0419, 33FA1906, 33FA1918, 33FA1919, and 33FA2271; however, they did not relocate nine (9) previously recorded sites (#33FA0031, 33FA0100, 33FA0101, 33FA0177, 33FA0178, 33FA1705, 33FA1706, 33FA1930, and 33FA2272). These investigations also documented twenty-two (22) previously unrecorded archaeological sites, OAI sites #33FA2850-33FA2871. Of the twenty-nine (29) archaeological sites documented or reidentified during this survey, twenty-eight (28) archaeological sites (OAI sites #33FA0180, 33FA0181, 33FA1906, 33FA1918, 33FA1919, 33FA2271, and 33FA2850-33FA2871) were recommended not eligible for listing in the National Register of Historic Places (NRHP). No additional archaeological survey is recommended for these sites. OAI #33FA0419 was recommended for avoidance or additional investigations. Our office agrees with these recommendations.

The following comments pertain to the *History/Architecture Investigations for the 15.8 km (9.8 mi) Long West Lancaster-South Baltimore-West Millersport 138kV Rebuild Project in Walnut, Liberty, Greenfield, and Hocking Townships, Fairfield County Ohio* by Scott McIntosh (Weller & Associates, Inc., 2024).

A literature review and field survey for architectural resources were conducted as part of the investigations. A total of eighty-four (84) resources fifty (50) years of age or older were identified in the Area of Potential Effects (APE) for indirect effects. Of these, two (2) Ohio Historic Inventory (OHI) resources are recommended by Weller as eligible for listing in the NRHP under Criterion C (FAI0090105 and FAI0090210). None of the other architectural resources are identified as eligible. Our office agrees with Weller's recommendations of eligibility; therefore, we agree that there will be no adverse effect on aboveground historic resources as a result of the project.

To summarize, our office recommends avoidance or additional investigations for OAI site #33FA0419. In addition, we request that the inventory forms for OAI sites #33FA2862, 33FA2863, and 33FA2868 be completed and our office notified once the forms have been submitted. We look forward to additional coordination for the West Lancaster-South Baltimore-West Millersport 138kV Rebuild Project. If you have any questions, please contact me by e-mail at cgullett@ohiohistory.org or Ms. Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Catherine Gullett, Project Reviews Coordinator
Resource Protection and Review
State Historic Preservation Office

RPR Serial No: 1102689 and 1102690

In reply, refer to
2024-FAI-60977

June 22, 2024

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

RE: Addendum 1 – West Lancaster-South Baltimore 138kV Rebuild Project, Fairfield County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received May 29, 2024, regarding the proposed West Lancaster-South Baltimore 138kV Rebuild Project, Fairfield County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Addendum: Archaeological Investigations for Access Roads and Expanded Work Areas Associated with the West Lancaster-South Baltimore 138kV Rebuild Project in Fairfield County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2024). The purpose of this project is to address proposed access roads and expanded works areas associated with the West Lancaster-South Baltimore 138kV transmission line rebuild project that were not investigated during the initial Phase I archaeology and architecture surveys (Weller 2024; McIntosh 2024). This addendum project strictly addresses potential impacts to archaeological resources, as architectural resources within the Area of Potential Effects (APE) were addressed through the initial survey (McIntosh 2024).

A literature review, visual inspection, surface collection, and shovel test unit excavations were completed as part of the addendum investigations. Portions of the project area had been the subject of previous investigations through the initial Phase I survey (Weller 2024). There were three (3) previously documented archaeological sites, Ohio Archaeological Inventory (OAI) sites 33FA0180, 33FA0419, and 33FA1720, located within the addendum project area. OAI site 33FA0180 was documented in relation to a landowner's collection and does not have well-defined boundaries. These investigations did not relocate OAI site 33FA0180 within the addendum project area and no further archaeological survey is recommended in relation to this site.

A previous coordination letter issued for the West Lancaster-South Baltimore 138kV Rebuild Project

(dated May 11, 2024) recommended avoidance or additional investigations for OAI site 33FA0419. The known boundaries of OAI site 33FA0419 are located entirely within one of the proposed expanded work areas, which is roughly bounded by Ety Road NW to the east, the Hocking River to the southwest, and a railroad to the northeast. Per the submission, Phase II assessment work for OAI site 33FA0419 is actively underway and the entirety of this expanded work area will be addressed through those investigations. Likewise, per the submission, OAI site 33FA1720 is located within this expanded work area and will be addressed concurrently with the Phase II investigations for site 33FA0419. Our office requests the opportunity to review and comment on the plan for investigations within this expanded work area, as it relates to OAI site 33FA1720 and the Phase II assessment of OAI site 33FA0419.

Finally, these investigations identified two (2) new OAI sites: 33FA2906 and 33FA2907. Both archaeological sites are precontact-era isolated find spots that lacked any diagnostic materials. Neither site was recommended eligible for listing on the National Register of Historic Places (NRHP) and our office agrees with this recommendation. No additional archaeological survey is recommended within the tested portions of the addendum project area.

In summary, our office agrees that no additional archaeological investigation is needed for OAI sites 33FA0180, 33FA2906, and 33FA2907; however, we continue to recommend avoidance or additional investigations for OAI site 33FA0419. We also recommend that the entirety of the expanded work area, which contains a portion of OAI site 33FA1720, as well as OAI site 33FA0419, be investigated. Our office looks forward to additional coordination regarding these two archaeological sites and the West Lancaster-South Baltimore 138kV Rebuild Project. If you have any questions, please contact me by e-mail at cgullett@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Catherine Gullett, Project Reviews Coordinator - Archaeology
Resource Protection and Review
State Historic Preservation Office

RPR Serial No: 1103377

Appendix E Ecological Resources Inventory Report

WEST LANCASTER – SOUTH BALTIMORE – WEST MILLERSPORT 138KV REBUILD

ECOLOGICAL REPORT

PROJECT SITE:

Southwest of OH-204 and OH-37 to
Northeast of US Highway 22 and OH-57
Fairfield County, Ohio

PREPARED FOR:

AEP Ohio Transmission Company, Inc.
8600 Smiths Mill Road
New Albany, Ohio 43054

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY

PREPARED BY:

V3 Companies, Ltd.
619 North Pennsylvania Street
Indianapolis, Indiana 46204
(317) 423-0690

April 2024

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EXECUTIVE SUMMARY

V3 Companies, Ltd. (V3), performed an ecological survey and report for The West Lancaster – South Baltimore – West Millersport 138kv Transmission Line Rebuild project on March 27 and 28, 2024. The project begins at West Millersport Station, southwest of OH-204 and OH-37, Millersport, OH, and extends approximately 4.6 mile southwest to South Baltimore Station (Structures 33 to 2) and continues approximately 9.8 miles southwest to West Lancaster Station, northeast of US Highway 22 and OH-57 (Structures 71 to 1) in Fairfield County, Ohio (SITE). The survey area includes the 14.4-mile-long transmission line and a 100-foot right of way corridor. V3 reached the following conclusions based on review of available and reasonably ascertainable federal, state, and local resources, and a SITE inspection conducted on the date referenced above.

- Seventeen streams were identified on-SITE, ST-31PER, ST-25-PER, ST-15-PER, Walnut Creek, ST-2-PER, ST-68-INT, ST-63-EPH, ST-55-INT, ST-53-INT, ST-48-EPH, ST-44-INT, ST-44-EPH, ST-42-INT, Hocking River, ST-14-PER, ST-11-INT and Hunters Run. All streams, except ST-63-EPH and ST-48-EPH, appear to be relatively permanent waters that will likely qualify as federally jurisdictional "Waters of the U.S.". Additionally, Hocking River is designated by the U.S. Army Corps of Engineers (USACE) as a Section 10 Navigable Waterway 79 miles upstream of the confluence of the Ohio River.
- Eight wetlands were identified on-SITE, WL-12-PEM, WL-10-PEM, WL-5-PEM, WL-68-PEM, WL-60-PEM, WL-50-PEM, and WL-41-PEM. Wetlands WL-68-PEM, WL-41-PEM and WL-18-PEM appear to have a connection to relatively permanent waters, therefore, will likely qualify as a "Waters of the U.S.". All the other wetlands did not appear to have direct connection to relatively permanent waters and are likely to be considered isolated.
- Two stormwater ponds were identified on-SITE. One potential stormwater pond was noted within an inaccessible residential area. The ponds appear to be isolated man-made features.
- An official species list obtained from the U.S. Fish and Wildlife Service (USFWS) Information Planning and Consultation (IPaC) website indicated that the SITE is within the ranges of the federally endangered Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), the proposed endangered tricolored bat (*Perimyotis subflavus*), the federally threatened eastern massasuaga (*Sistrurus catenatus*) and round hickorynut (*Obovaria subrotunda*), the proposed endangered salamander Mussel (*Simpsonaias ambigua*) and the candidate for listing monarch butterfly (*Danaus plexippus*). The USFWS made recommendations to avoid impacts to on-SITE streams and wetlands, and to avoid clearing potential roost trees for the federally listed bat species outside the recommended seasonal clearing dates, 1 October to 31 March. The USFWS stated the due to the project, type, size, and location, the agency does not anticipate adverse effects to any other federally endangered, threatened, or proposed species or proposed or designated critical habitat.
- Correspondence with the Ohio Department of Natural Resources (ODNR) indicated records of the state species of special concern cerulean warbler (*Setophaga cerulea*) and kidneyshell (*Ptychobranchus fasciolaris*), a Great Blue Heron rookery, Appalachian oak forest plant community, and oak-maple forest plant community within a one-mile radius of the SITE. Potentially suitable habitat for the kidneyshell was observed within the SITE. The documented plant communities are anticipated to occur within forested areas adjacent to the SITE. The ODNR Division of Fish and Wildlife stated that the SITE is also within the range of seven endangered, threaten, and rare (ETR) species. The ODNR stated that the project is not likely to impact these species if habitat is not impacted and gave recommendations to avoid and minimize impacts to these species and their habitats.

CHAPTER 1 INTRODUCTION

This report has been prepared solely in accordance with an agreement between American Electric Power ("CLIENT") and V3 Companies ("V3"), Ltd.

The services performed by V3 have been conducted in a manner consistent with the level of quality and skill generally exercised by members of its profession and consulting practices relating to this type of engagement.

This report is solely for the use of CLIENT and was prepared based upon an understanding of CLIENT's specific objective(s) and based upon information obtained by V3 in furtherance of CLIENT's specific objective(s). Any reliance of this report by third parties shall be at such third party's sole risk as this report may not contain, or be based upon, sufficient information for purposes of other parties, for their objectives, or for other uses. This report shall only be presented in full and may not be used to support any other objectives than those for CLIENT as set out in the report, except where written approval and consent are expressly provided by CLIENT and V3.

1.1 INTRODUCTION

The purpose of this investigation was to conduct an ecological survey and report of the SITE to evaluate potential land development permitting requirements regarding natural resources. In this report, V3 provides a detailed description of the information reviewed and collected as part of the scope of work for this project. V3 summarizes the jurisdictional framework applicable to this project, provides a desktop review of relevant and publicly available documents, and details information collected during the SITE reconnaissance including a wetlands determination, an evaluation of the potential presence of other natural resources within the SITE boundary, and a discussion of endangered, threatened, and rare (ETR) species and habitat. The Conclusions section summarizes V3's findings, addresses potential areas of concern and permitting, regulatory, and other relevant issues.

CHAPTER 2 JURISDICTIONAL RESOURCES

2.1 WETLANDS

Wetlands offer a variety of functions and values that may include, but are not limited to, groundwater recharge/discharge, flood flow alteration, sediment/toxicant retention, and fish and wildlife habitat. Because of the perceived functions and values of wetlands, USACE developed the Wetlands Delineation Manual, (*1987 Manual*)[1] to identify wetlands.

Wetlands are defined in the *1987 Manual* as, "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."[2] The *1987 Manual* outlines the protocol for distinguishing wetland areas from "upland" areas. Wetland areas are delineated according to three primary criteria: vegetation, soil, and hydrology. An area is determined to qualify as a wetland if it meets the following "general diagnostic environmental characteristics:"

- Hydrophytic vegetation
- Hydrology
- Hydric Soil

[1] USACE. Waterways Experiment Station. Wetlands Research Program. "Corps of Engineers Wetlands Delineation Manual." Vicksburg, MS: Environmental Laboratory, 1987

CHAPTER 3 DESKTOP REVIEW

V3 reviewed applicable, readily available, and accessible historical information for the potential presence of wetlands, "Waters of the U.S.," and other natural resources.

3.1 UNITED STATES GEOLOGICAL SURVEY 7.5-MINUTE QUADRANGLE MAP

A USGS 7.5-Minute Quadrangle map displays contour lines to portray the shape and elevation of the land surface. Quadrangle maps render the three-dimensional changes in elevation of the terrain on a two-dimensional surface. The maps usually portray both manmade and natural topographic features. Although they show lakes, rivers, various surface water drainage trends, vegetation, etc., they typically do not provide the level of detail needed for accurate evaluation of wetlands. However, the existence of these features may suggest the potential presence of wetlands.

The SITE is situated in the Millersport, Baltimore, Carroll, and Amanda, Ohio USGS 7.5-Minute Quadrangle Map. Section, Township and Range information is described in **Table 3-1**. V3 evaluated the topography and concluded that the SITE elevation ranges from approximately 820 to 1100 feet above mean sea level (AMSL). Seven aquatic features are mapped within the SITE area, Hocking River, Walnut Creek, Abandoned Ohio Canal, and four unnamed streams (**Figure 1**).

Table 3-1: Section, Township, and Range Description

Section	Township, Range	Structure Location
6, 7, 18, 19	16 North, 18 West	33 to 12
24, 25, 36	16 North, 19 West	11 to 63
1, 2, 11, 14, 23, 26, 27, 34, 35	15 North, 19 West	62 to 16
2, 3, 10, 11	14 North, 19 West	15 to 1

3.2 NATIONAL WETLANDS INVENTORY MAP

National Wetlands Inventory (NWI) maps were developed to meet a USFWS mandate to map the wetland and deepwater habitats of the U.S. These maps were developed using high altitude aerial photographs and USGS Quadrangle maps as a topographic base. Indicators that exhibited pre-determined wetland characteristics, visible in the photographs, were identified according to a detailed classification system. The NWI map retains some of the detail of the Quadrangle map; however, it is used primarily for demonstration of wetland areas identified by the agency. The maps are accurate to a scale of 1:24,000. In general, the NWI information requires field verification.

NWI data is shown projected over aerial imagery in **Figure 2**. There are 14 NWI features are mapped within the SITE area and described in **Table 3-2**. The presence of NWI features mapped partially or fully within the SITE area suggests the potential presence of wetlands or other regulated aquatic features on-SITE.

Table 3-2: NWI Classification Description

Symbol	Description	Nearest Structure
PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded	60 South
PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	60 South
PUBGx	Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated	32 South
R2UBG	Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Intermittently Exposed	18, 15, 1 South
R2UBH	Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	25 North
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	31 North
		3, 2 North
		55 South
		53 South
		48 South
		44 South
		11 South
R5UBH	Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded	15 North
		3 North

3.3 FLOOD INSURANCE RATE MAP

The Federal Emergency Management Agency (FEMA) was developed in 1979 to reform disaster relief and recovery, civil defense, and to prepare and mitigate for natural hazards. The Mitigation Division of FEMA manages the National Flood Insurance Program which provides guidance on how to lessen the impact of disasters on communities through flood insurance, floodplain management, and flood hazard mapping. Proper floodplain management has the ability to minimize the extent of flooding and flood damage and improve stormwater quality by reducing stormwater velocities and erosion. The one percent annual chance flood (100-year flood) boundary must be kept free of encroachment as the national standard for the program.

V3 reviewed digital National Flood Hazard Zone data for Fairfield County, Ohio (Figure 2). Various portions of the site are mapped within the 100-year floodway, Flood Zone X, A, and AE (Table 3-3).

Table 3-3: Flood Zone Description

Flood Zone	Associated Stream	Nearest Structure
AE	Walnut Creek	4 to 2 North
Floodway		3 North
AE	Hocking River	21 to 19 South
Floodway		19 South
AE	ST-14-PER	15 South
Floodway		
AE	Hunters Run	2 to 1 South
Floodway		1 South

3.4 UNITED STATES DEPARTMENT OF AGRICULTURE SOIL SURVEY

V3 reviewed the soils mapped on-SITE using the Natural Resource Conservation Service (NRCS) digital soil survey data for Fairfield County, Ohio. This data is projected over aerial photography, illustrating distinct soil map unit boundaries, in Figure 3.

Table 3-4: Soil Survey Description

Soil Map Unit	Description	Hydric within Fairfield County
Ag	Aetna silt loam, occasionally flooded	No
Ah	Aetna silt loam, fan, occasionally flooded	No
AmB	Amanda silt loam, 2 to 6 percent slopes	No
AmB2	Amanda silt loam, 2 to 6 percent slopes, eroded	No
AmC2	Amanda silt loam, 6 to 12 percent slopes, eroded	No
AmD2	Amanda silt loam, 12 to 20 percent slopes, eroded	No
AmE2	Amanda silt loam, 20 to 35 percent slopes, eroded	No
AoC3	Amanda silty clay loam, 6 to 12 percent slopes, severely eroded	No
ApC2	Amanda-Loudonville complex, 6 to 12 percent slopes, eroded	No
ApD2	Amanda-Loudonville complex, 12 to 20 percent slopes, eroded	No
BeA	Bennington silt loam, 0 to 2 percent slopes	No
BeB	Bennington silt loam, 2 to 6 percent slopes	No
Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	No
Cen1B2	Centerburg silt loam, 2 to 6 percent slopes, eroded	No
Cen1C2	Centerburg silt loam, 6 to 12 percent slopes, eroded	No
Crd1B1	Cardington silt loam, 2 to 6 percent slopes	No
CsA	Canal silt loam, 0 to 2 percent slopes	No
Ee	Eel silt loam, gravelly substratum, occasionally flooded	No
FmA	Fox silt loam, 0 to 2 percent slopes	No
FmB	Fox silt loam, 2 to 6 percent slopes	No
GaB	Gallman silt loam, loamy substratum, 2 to 6 percent slopes	No
GnB	Glenford silt loam, 3 to 8 percent slopes	No
LtE	Loudonville-Steinsburg complex, 20 to 35 percent slopes	No
Ma	Marengo clay loam	Yes
Mb	Marengo silt loam, overwash	Yes
Mns3A	Minster silty clay loam, 0 to 1 percent slopes	Yes
Pb	Patton silty clay loam, 0 to 2 percent slopes, rarely flooded	Yes
Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Yes
SkA	Sleeth silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	No
ThA	Thackery silt loam, 0 to 2 percent slopes	No
Ud	Udorthents, loamy	No
UoC	Urban land-Amanda complex, 2 to 12 percent slopes	No
UrB	Urban land-Bennington complex, 0 to 6 percent slopes	No
WdA	Wea silt loam, 0 to 2 percent slopes	No

Five hydric soil unit is situated within the SITE. Marengo clay load (Ma), Marengo silt loam, overwash (Mb), Minister silty clay loam, 0 to 1 percent slopes (Mns3A), Patton silty clay loam, 0 to 2 percent slopes, rarely flooded (Pb), and Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes (Pe), are considered hydric within Fairfield County, Ohio. Soils are considered hydric if more than 50 percent of the soil contains hydric components according to the NRCS Web Soil Survey. The presence of hydric soil units within the SITE area suggests appropriate wetland soils are located on-SITE.

3.5 ENDANGERED, THREATENED, AND RARE SPECIES EVALUATION

An official species list obtained from the USFWS IPaC website indicated that the SITE is within the ranges of the federally endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*), the federally proposed endangered tricolored bat (*Perimyotis subflavus*) and salamander mussel (*Simpsonaias ambigua*); the federally threatened eastern massasaunga rattlesnake

(*Sistrurus catenatus*) and round hickorynut (*Obovaria subrotunda*), and the monarch butterfly (*Danaus plexippus*), a candidate for listing under the Endangered Species Act. The USFWS made recommendations to avoid impacts to on-SITE streams and wetlands, and to avoid clearing potential roost trees for the federally listed bat species. The USFWS stated that if tree clearing cannot be avoided, then seasonal clearing shall be done to avoid adverse effects to the Indiana bats and the northern long-eared bats. The USFWS stated the due to the project, type, size, and location, the agency does not anticipate adverse effects to any other federally endangered, threatened, or proposed species or proposed or designated critical habitat.

Correspondence with the ODNR indicated records of the state species of special concern cerulean warbler (*Setophaga cerulea*) and kidneyshell (*Ptychobranchus fasciolaris*), a Great blue Heron rookery, Appalachian oak forest plant community, and oak-maple forest plant community within a one-mile radius of the SITE. Additionally, the ODNR Division of Fish and Wildlife stated that the SITE is within the range of seven ETR species (Table 3-5).

ODNR recommended a desktop habitat assessment followed by a field assessment, if needed, to identify if potential bat hibernacula are present within the Project area. V3 completed a desktop assessment including data on known abandoned or active mines and locations known or suspected of karst geology. The desktop assessment identified no karst features or mine openings within 0.25 mile of the Project area. Further, no suitable bat hibernacula were observed during the field reconnaissance.

Based on the documentation referenced above, additional correspondence with the agencies does not appear to be warranted at this time. If federal permitting or federal financing will be used in future development, additional coordination may be necessary. Copies of agency correspondence can be referenced in Appendix A.

Table 3-5: ETR Species Table

Scientific Name	Common Name	State Listed Status	Federally Listed Status	Typical Habitat Description	Habitat Observed In Survey Area	Avoidance Dates	Agency Comment (Appendix A)	Potential Impacts
Mussels								
Ptychobranchus fasciolaris	Kidneyshell	Special Concern	N/A	Medium to large rivers in gravel	Yes	N/A	ODNR - Proposed project not likely to impact this species if no in-water work proposed.	No –work in habitat not proposed
Fishes								
Ichthyomyzon fossor	Northern brook lamprey	Endangered	N/A	Perennial streams	Yes	15 March to 30 June	ODNR - If no in-water work is proposed in a perennial stream, this project is not likely to impact these species	No –work in habitat not proposed
Notropis ariommus	Popeye shiner	Endangered	N/A	Perennial streams	Yes	15 March to 30 June		No –work in habitat not proposed
Birds								
Setophaga cerulea	Cerulean Warbler	Special Concern	N/A	Deciduous forests	No	N/A	ODNR	No
Circus hudsonius	Northern Harrier	Endangered	N/A	Breed and hunt in large marshes and grasslands. Nests on the ground atop mounds	Yes	15 April to 31 July	ODNR - If the habitat will not be impacted, this project is not likely to impact this species.	TBD - 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.

Mammals								
Myotis sodalis	Indiana bat	Endangered	Endangered	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. However, these species are also dependent on the forest structure surrounding roost trees	No	1 April to 30 September	ODNR/USFWS – Cutting of trees is recommended between 1 October and 31 March. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between 1 June and 15 August. ODNR - If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the Division of Wildlife (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.	No - Impacts are avoided with winter tree clearing. If winter tree clearing is not feasible, presence/absence surveys may be needed.
Myotis septentrionalis	Northern long-eared bat	Endangered	Endangered		No			
Myotis lucifugus	Little brown bat	Endangered	Endangered		No			
Perimyotis subflavus	Tricolored bat	Proposed Endangered	N/A		No			

CHAPTER 4 SITE RECONNAISSANCE

4.1 METHODOLOGY

V3 conducted a field investigation at the SITE on March 27 and 28, 2024. During this investigation, V3 noted the presumed land use of the SITE and surrounding area, and evaluated the SITE for the potential presence of wetlands, "Waters of the U.S.," and natural resources using the findings of the desktop review and field observations. Photographs were taken during the field investigation and are provided in Appendix B.

V3 used the Routine Determination Method (RDM) with an established baseline and transects as described in the *1987 Manual* for typical sites over five acres. V3 recorded data from a number of data points (DP) along the transect as a function of diversity of vegetation, property size, soil types, habitat variability, and other SITE features as deemed appropriate by V3. Where evidence of a wetland was suspected, three wetland criteria were applied to determine if the area in question was representative of a wetland using the methodology set forth by USACE. More specifically, V3 visually examined and recorded the dominant vegetation, recorded soil properties such as texture and color using the Munsell Soil Color Chart (Munsell Color Chart), excavated soil pits, and evaluated the primary and secondary hydrologic indicators.

If all three criteria were met, i.e. vegetation, soil properties, and hydrologic indicators, a second DP was established adjacent to the wetland DP in an area outside of the presumed wetland boundary for the purpose of delineating between the wetland and non-wetland areas. Once delineated, V3 continued the RDM to evaluate the remainder of the SITE.

4.2 SITE AND ADJACENT PROPERTY LAND USE

The 14.4-mile-long corridor consists of residential, commercial, fallow, and agricultural use land, woodland, and existing substations. Adjacent land use consists of residential, commercial, fallow, and agricultural land, and woodland.

4.3 WETLAND SUMMARY

Eight wetlands were identified during this investigation based upon the methodology set forth in the *1987 Manual* and the *Midwest Regional Supplement*. Information that V3 collected at each DP on March 27 and 28, 2024 is described in the following section. This information is summarized on the forms provided in Appendix C. An overall SITE delineation map showing placement of the DPs is included as Figure 4.

Table 6-1: Delineated Wetlands Identified within the Survey Area

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Proposed Impacts	
	Latitude	Longitude				Score	Category	Temporary Matting Area (acre)	Permanent Impact Area (acre)
WL-12-PEM	39.84744	-82.58657	Yes	PEM	0.06	43.5	Modified 2	TBD	0
WL-10-PEM	39.84171	-82.58895	Yes	PEM	0.17	2	1	TBD	0
WL-5-PEM	39.83423	-82.59153	Yes	PEM	0.11	32	1 or 2 gray zone	TBD	0

WL-68-PEM	39.82181	-82.59758	No	PEM	0.10	31	1 or 2 gray zone	TBD	0
WL-60-PEM	39.80855	-82.61096	Yes	PEM	1.91	39	Modified 2	TBD	0
WL-50-PEM	39.79325	-82.62197	Yes	PEM	0.03	32	1 or 2 gray zone	TBD	0
WL-41-PEM	39.77470	-82.62809	No	PEM	0.40	32.5	1 or 2 gray zone	TBD	0
WL-18-PEM	39.72906	-82.63356	No	PEM	0.05	40	Modified 2	TBD	0

4.3.1 Wetland WL-12-PEM – (0.06-acre PEM on-SITE)

Wetland WL-12-PEM was situated adjacent to Structure 12 and consisted of 0.06 acres of palustrine, emergent wetland (PEM) on-SITE. Wetland WL-12-PEM appears to continue east off-SITE and did not appear to have a hydrologic connection with any federally jurisdictional "Waters of the U.S.".

DP WL-12

This DP was collected in the northern portion of Wetland WL-12-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of rice cut grass (*Leersia oryzoides*, OBL., 80%) and Virginia wild rye (*Elymus virginicus*, FACW, 20%). The soil profile met the depleted matrix (F3) indicator for hydric soil. Evidence of wetland hydrology included surface water (A1), high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-12

This DP was collected in the upland area adjacent to DP WL-12. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of multiflora rose (*Rosa multiflora*, FACU 8%), Allegheny blackberry (*Rubus alleghensis*, FACU, 2%), Canadian goldenrod (*Solidago canadensis*, FACU, 75%), and Indian-hemp (*Apocynum cannabinum*, FAC, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

4.3.2 Wetland WL-10-PEM – (0.17-acre PEM on-SITE)

Wetland WL-10-PEM was situated adjacent to Structure 10 and consisted of 0.17 acres of PEM on-SITE. Wetland WL-10-PEM appears to continue east off-SITE and did not appear to have a hydrologic connection with any federally jurisdictional "Waters of the U.S."

DP WL-10

This DP was collected in the west portion of Wetland WL-10-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of Virginia wild rye (FACW, 25%) and garden yellow-rocket (*Barbarea vulgaris*, FAC, 15%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included surface water (A1), high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-10

This DP was collected in the upland area adjacent to DP WL-10. This area met hydric soil criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify

as a wetland. The dominant vegetation for each stratum present consisted of common wheat (*Triticum aestivum*, UPL, 80%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of wetland hydrology were observed.

4.3.3 Wetland WL-5-PEM – (0.11-acre PEM on-SITE)

Wetland WL-5-PEM was situated adjacent to Structure 5 and consisted of 0.11 acres PEM on-SITE. Wetland WL-5-PEM appears to continue east off-SITE and did not appear to have a hydrologic connection with any federally jurisdictional "Waters of the U.S."

DP WL-5

This DP was collected in the northwest portion of Wetland WL-5-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of dark-green bulrush (*Scirpus atrovirens*, OBL, 60%), and Indian-hemp (FAC, 20%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-5

This DP was collected in the upland area adjacent to DP WL-5. This area met the hydric vegetation and hydrology criteria but did not meet the hydric soil criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Allegheny blackberry (FACU, 5%), red maple (*Acer rubrum*, FAC, 5%), Canadian goldenrod (FACU, 50%), tall false rye grass (*Schedonorus arundinaceus*, FACU, 30%), and deer tongue panic grass (*Dichanthelium clandestinum*, FACW, 20%).

4.3.4 Wetland WL-68-PEM – (0.10-acre PEM on-SITE)

Wetland WL-68-PEM was situated adjacent to Structure 68 and consisted of 0.10 acres of PEM on-SITE. Wetland WL-68-PEM appears to continue east off-SITE and did appear to have a hydrologic connection with any federally jurisdictional "Waters of the U.S."

DP WL-68

This DP was collected in the north portion of Wetland WL-68-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of common rush (OBL, 40%) and deer tongue panic grass (FACW, 30%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included high water table (A2), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-68

This DP was collected in the upland area adjacent to DP WL-68. This area met x criteria but did not meet x criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Allegheny blackberry (FACU, 10%), path rush (*Juncus tenuis*, FAC, 50%), Canadian goldenrod (FACU, 20%), and white heath aster (*Symphyotrichum ericoides*, FACU, 10%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of wetland hydrology were observed.

4.3.5 Wetland WL-60-PEM – (1.91-acre PEM on-SITE)

Wetland WL-60-PEM was situated adjacent to Structure 60 and consisted of 1.91 acres of PEM on-site. Wetland WL-60-PEM appears to continue east and west off-SITE and did appear to have a hydrologic connection with any federally jurisdictional "Waters of the U.S."

DP WL-60

This DP was collected in the northeast portion of Wetland WL-60-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of lamp rush (*Juncus effusus*, OBL, 45%), and reed canary grass (*Phalaris arundinacea*, FACW, 25%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-60

This DP was collected in the upland area adjacent to DP WL-60. This area met the hydric soil criterion but did not meet the hydrophytic vegetation or hydrology criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 55%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of wetland hydrology were observed.

DP WL-60A

This DP was collected in the southwest portion of Wetland WL-60-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of lamp rush (OBL, 20%) and dark-green bulrush (OBL, 20%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included high water table (A2), saturation (A3), crayfish burrows (C8), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-60A

This DP was collected in the upland area adjacent to DP WL-60A. This area met hydric soil and hydrology criteria but did not meet the hydric vegetation criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Canadian goldenrod (FACU, 70%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included high water table (A2) and saturation (A3).

4.3.6 Wetland WL-50-PEM – (0.03-acre PEM)

Wetland WL-50-PEM was situated adjacent to Structure 50 and consisted of 0.03 acres of PEM. Wetland WL-50-PEM did not appear to have a hydrologic connection with any federally jurisdictional "Waters of the U.S."

DP WL-50

This DP was collected in the central portion of Wetland WL-50-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of common fox sedge (*Carex vulpinoidea*, FACW, 100%). The soil profile met the depleted matrix (F3) indicator for hydric soil. Evidence of wetland hydrology included oxidized rhizospheres on living roots (C3), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-50

This DP was collected in the upland area adjacent to DP WL-50. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Japanese bristle grass (*Setaria faberi*, FACU, 70%) and corn residue (*Zea mays*, UPL, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

4.3.7 Wetland WL-41-PEM – (0.40-acre PEM on-SITE)

Wetland WL-41-PEM was situated adjacent to Structure 41 and consisted of 0.40 acres of PEM on-SITE. Wetland WL-41-PEM appears to continue west and did appear to have a hydrologic connection with a federally jurisdictional "Waters of the U.S."

DP WL-41

This DP was collected in the north portion of Wetland WL-41-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of Allegheny blackberry (FACU, 5%), white vervain (*Verbena urticfolia*, FAC, 20%), and reed canary grass (FACW, 20%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-41

This DP was collected in the upland area adjacent to DP WL-41. This area met hydric soil criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Allegheny blackberry (FACU, 15%) and tall false rye grass (FACU, 70%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of wetland hydrology were observed.

DP WL-41A

This DP was collected in the south portion of Wetland WL-41-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of common fox sedge (FACW, 20%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-41A

This DP was collected in the upland area adjacent to DP WL-41A. This area met the hydric vegetation criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Japanese bristle grass (FACU, 60%) No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

4.3.8 Wetland WL-8-PEM – (0.05-acre PEM)

Wetland WL-18-PEM was situated adjacent to Structure 18 and consisted of 0.05 acres of PEM. Wetland WL-18-PEM did appear to have a hydrologic connection with a federally jurisdictional "Waters of the U.S."

DP WL-18

This DP was collected in the southern portion of Wetland Wl-18-PEM. All three criteria were met which qualifies this area as a wetland. The dominant vegetation for each stratum present consisted of reed canary grass (FACW, 98%). The soil profile met the redox dark surface (F6) indicator for hydric soil. Evidence of wetland hydrology included geomorphic position (D2), and FAC-neutral test (D5).

DP UPL-18

This DP was collected in the upland area adjacent to DPWL-18. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Northern catalpa (*Catalpa speciosa*, FACU, 50%),

multiflora rose (FACU, 15%), and Virginia wild rye (FACW, 50%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

4.4 DATA POINT SUMMARY

Below is a description of the information collected at each additional DP during the March 27 and 28, 2024 field investigation that was not associated with an identified wetland area. The purpose of collecting these DPs was to describe the remaining characteristics of the SITE. Information that was collected at each DP is summarized on the forms provided in Appendix C. Their placement is depicted in Figure 4.

DP 33A

This DP was collected north of Structure 33 at West Millersport Station. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Allegheny blackberry (FACU, 50%) and Canadian goldenrod (FACU, 40%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 33

This DP was collected south of Structure 33 at West Millersport Station. This area met the hydric vegetation criteria but did not meet any other criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of garden yellow-rocket (FAC, 40%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 31

This DP was collected north of Structure 31. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of purple dead-nettle (*Lamium purpureum*, UPL, 48%) and corn residue (UPL, 40%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 28

This DP was collected north of Structure 28. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of soybean residue (*Glycine max*, UPL, 60. No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 25

This DP was collected north of Structure 25. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Allegheny blackberry (FACU, 5%), poison hemlock (*Conium maculatum*, FACW, 30%), purple dead-nettle (UPL, 30%), and yellow nut sedge (*Cyperus esculentus*, FACW, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 22

This DP was collected north of Structure 22. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of soybean residue (UPL, 40%), garden yellow-rocket (FAC, 20%), and common chickweed (*Stellaria media*, FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 19

This DP was collected south of Structure 19. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of corn residue (UPL, 70%) and common chickweed (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 16

This DP was collected south of Structure 16. This area met the hydric vegetation criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of reed canary grass (FACW, 45%) and Indian-hemp (FAC, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 14

This DP was collected north of Structure 14. This area met the hydric soil criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of soybean residue (UPL, 60%) and annual ryegrass (*Lolium multiflorum*, UPL, 30%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of wetland hydrology were observed.

DP 12

This DP was collected south of Structure 12. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Callery pear (*Pyrus calleryana*, UPL, 40%), black elder (*Sambucus nigra*, FACU, 15%), crow garlic (*Allium vineale*, FACU, 30%), and Canadian goldenrod (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 10

This DP was collected south of Structure 10. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of red osier dogwood (*Cornus alba*, FACW, 30%), Allegheny blackberry (FACU, 20%), and Canadian goldenrod (FACU, 40%). The soil profile met the depleted matrix (F3) indicator for hydric soil. No indicators of wetland hydrology were observed.

DP 8

This DP was collected north of Structure 8. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of common wheat (UPL, 80%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 6

This DP was collected north of Structure 6. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of slough sedge (*Carex atherodes*, OBL, 100%). This DP was in a residential yard, therefore there was no soil pit taken. No indicators of wetland hydrology were observed.

DP 4

This DP was collected north of Structure 4. This area met the hydrophytic vegetation and wetland hydrology criteria but did not meet the hydric soil criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of lamp rush (30%, OBL), Canadian goldenrod (25%, FACU), and tall false rye grass (20%, FACU). No indicators of hydric soils were observed. Evidence of wetland hydrology included high water table (A2) and saturation (A3).

DP 4A

This DP was collected south of Structure 4. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of corn residue (UPL, 100%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 3

This DP was collected north of Structure 3. This area met the hydric vegetation and hydrology criteria but did not meet the hydric soil criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of yellow ironweed (*Verbesina alternifolia*, FACW, 25%), Canadian goldenrod (FACW, 20%), and stinging nettle (*Urtica dioica*, FACW, 20%). No indicators of hydric soils were observed. Evidence of wetland hydrology included geomorphic position (D2), and FAC-neutral test (D5).

DP 2

This DP was north of Structure 2. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of corn residue (UPL, 30%), rape (*Brassica rapa*, FACW, 15%), purple dead-nettle (UPL, 10%), and butterweed (*Packera glabella*, FACW, 10%)). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 71

This DP was collected north of Structure 71. This area met the hydrology criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of red osier dogwood (FACW, 30%), Allegheny blackberry (FACU, 15%), Canadian goldenrod (FACU, 25%), and purple leaf willowherb (*Epilobium coloratum,* OBL, 20%). No indicators of hydric soils were observed. Evidence of wetland hydrology included high water table (A2), saturation (A3), and geomorphic position (D2).

DP 70

This DP was collected north of Structure 70. This area met the hydric soil criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Japanese bristle grass (FACU, 35%), yellow bristle grass (*Setaria pumila*, FAC, 355), and Kentucky blue grass (*Poa pratensis*, 20%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of wetland hydrology were observed.

DP 68

This DP was collected north of Structure 68. This area did not meet any wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each

stratum present consisted of Allegheny blackberry (FACU, 30%), autumn olive (*Elaeagnus umbellata*, UPL, 105), Kentucky blue grass (FAC, 60%), and common dandelion (*Taraxacum officinale*, FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 63

This DP was collected north of Structure 63. This area met hydric vegetation criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 100%) This DP was in a residential yard, therefore there was no soil pit taken. No indicators of wetland hydrology were observed.

DP 62A

This DP was collected northwest of Structure 62. This area met the hydric vegetation and hydrology criteria but did not meet the hydric soil criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of red maple (*Acer rubrum*, FAC, 30%), Amur honeysuckle (*Lonicera maackii*, UPL, 15%), Narrow-Leaf Cat-Tail (*Typha angustifolia*, OBL, 50%), garden yellow-rocket (FAC, 20%), and Kentucky blue grass (FAC, 20%). No indicators of hydric soils were observed. Evidence of wetland hydrology included saturation (A3) and FAC-neutral test (D5).

DP 62

This DP was collected north of Structure 62. This area met the wetland hydrology criteria but did not meet any other criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted gray dogwood (*Cornus racemosa*, FAC, 50%), tall false rye grass (FACU, 20%), and rape (FACW, 10%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 59

This DP was collected in the central portion of the SITE. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Alleghany blackberry (FACU, 10%,), apple mint (*Mentha X rotundifolia*, FAC, 10%,), bristle grass (FACU, 30%), meadow garlic (*Allium canadense*, FACU, 30%), and Indian-hemp (FAC, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 57

This DP was collected south of Structure 57. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Virginia wildrye (FACW, 50%) and rape (*Brassica napus*, UPL, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 52

This DP was collected in the central portion of the SITE. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Alleghany blackberry (FACU, 20%), fix sedge (FACW, 40%), and tall false rye grass (FACU, 35%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 48

This DP was collected north of Structure 48. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Canadian goldenrod (FACU, 40%), tall false rye grass (FACU, 30%), and Japanese bristle grass (FACU, 25%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 46

This DP was collected south of Structure 46. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 40%) and purple dead-nettle (UPL, 30%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 44

This DP was collected north of Structure 44. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of black walnut (*Juglans nigra*, FACU, 10% tree layer, 30% shrub layer), multiflora rose (FACU, 25%), dewberry (*Rubus caesius*, FACU, 20%), smooth brome (FACU,, 50%), poison hemlock (FACW, 20%), tiger lily (*Lilium lancifolium*, UPL, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 42

This DP was collected south of Structure 42. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 50%) and white clover (*Trifolium repens*, FACU, 30%). Since the area consists of active pasture, no soil profile was obtained in this area. No indicators of wetland hydrology were observed.

DP 41

This DP was collected south of Structure 41. This area met the hydric soil profile but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of European buckthorn (*Rhamnus cathartica*, FAC, 30%), tree of heaven (*Ailanthus altissima*, FACU, 155), tall false rye grass (FACU, 30%), and woodland strawberry (*Fragaria vesca*, UPL, 20%). The soil profile met the redox dark surface (F6) indicator for hydric soil. No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 40

This DP was collected south of Structure 40. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of European buckthorn (FAC, 40%) and tall false rye grass (FACU, 80%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 39

This DP was collected north of Structure 39. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 80%). Since the area consists of a residential lawn, no soil profile was obtained in this area. No indicators of wetland hydrology were observed.

DP 36

This DP was collected north of Structure 36. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of orchard grass (*Dactylis glomerata*, FACU, 80%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 34

This DP was collected north of Structure 34. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of soybean residue (UPL, 50%) and common chickweed (FACU, 40%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 32

This DP was collected south of Structure 32, north of the stormwater pond. This area met the hydric vegetation and soil criteria but did not meet the hydrology criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of reed canary grass (FACW, 100%). The soil profile met the depleted matrix (F3) indicator for hydric soil. Evidence of hydrology observed included one secondary indicator, FAC-neutral test (D5).

DP 32A

This DP was collected south of Structure 32, north of the stormwater pond. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Johnson grass (*Sorghum halepense*, FACU, 60%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 31A

This DP was collected south of Structure 31 in the South Baltimore – West Lancaster portion of the line. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 50%) and Kentucky blue grass (FAC, 45%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 26

This DP was collected north of Structure 26. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Callery pear (UPL, 40%), Amur honeysuckle (UPL, 10%), common chickweed (FACU, 50%), and winter creeper (Euonymus fortune, UPL, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 23

This DP was collected south of Structure 23. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 40%), Kentucky blue grass (FAC, 30%), and white clover (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 22A

This DP was collected south of Structure 22 in the South Baltimore – West Lancaster portion of the line. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Callery pear (UPL, 40%), broomsedge (*Andropogon virginicus*, FACU, 40%), and yellow bristle grass (FAC, 30%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 20

This DP was collected southeast of Structure 20. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of soybean residue (UPL, 40%), common chickweed (FACU, 40%), and purple dead-nettle (UPL, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 15

This DP was collected north of Structure 15. This area met the hydric vegetation criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Kentucky blue grass (FAC, 40%), poison hemlock (FACW, 20%), and purple coneflower (*Echinacea pallida*, UPL, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 13

This DP was collected north of Structure 13. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of Kentucky blue grass (FAC, 60%), groundivy (*Glechoma hederacea*, FACU, 20%), and white clover (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 11

This DP was collected south of Structure 11. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of orchard grass (FACU, 75%) and tall false rye grass (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 8A

This DP was collected north of Structure 8 in the South Baltimore – West Lancaster portion of the line. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of sassafras (*Sassafras albidum*, FACU, 75%), orchard grass (FACU, 50%), white avens (*Geum canadense*, FAC, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 7

This DP was collected north of Structure 7. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of black raspberry (UPL, 10%), orchard grass, (FACU, 35%), wand panic grass (Pa*nicum virgatum*, FAC, 30%), Canadian goldenrod (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 5A

This DP was collected south of Structure 5, in the South Baltimore – West Lancaster portion of the line. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of corn residue (UPL, 60%) and common chickweed (FACU, 20%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 3A

This DP was collected south of Structure 3, in the South Baltimore – West Lancaster portion of the line. This area met no wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of tall false rye grass (FACU, 100%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 1A

This DP was collected north of Structure 1. This area met no wetland criteria.. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of black walnut (FACU, 20% tree layer, 20% shrub layer), black locust (*Robinia pseudoacacia*, FACU, 10% tree layer, 30% shrub layer), and poison hemlock (FACW, 70%). No indicators of hydric soils were observed. No indicators of wetland hydrology were observed.

DP 1

This DP was collected north of Structure 1, near West Lancaster Station. This area met the hydric vegetation criteria but did not meet any other wetland criteria. Since all three criteria were not met, this area does not qualify as a wetland. The dominant vegetation for each stratum present consisted of black locust (FACU, 20%), poison hemlock (FACW, 20%), reed canary grass (FACW, 20%), Kentucky blue grass (FAC, 20%), and Canadian goldenrod (FACU, 20%). No indicators of hydric soils were observed. Evidence of hydrology observed included one secondary indicator, FAC-neutral test (D5).

4.5 DRAINAGE FEATURES, STREAMS, AND OTHER POTENTIAL "WATERS OF THE U.S."

Seventeen streams and two open water bodies were identified during this investigation using the methods described in Chapter 2. Information that V3 collected at each feature on March 27 and 28, 2024 is described in the following section. An overall SITE delineation map is included as **Figure 4**.

Table 4-7: Delineated Streams Identified within the Survey Area

Feature	Location		Stream Type	Delineated Length (LF)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			OEPA 401 Eligibility
	Latitude	Longitude					Method	Score	Category / Rating / OAC Designation	
ST-31PER	39.884393	-82.570045	Perennial	200	15	6	HHEI	46	Class II	Eligible
ST-25-PER	39.871932	-82.576556	Perennial	115	15	4.5	QHEI	40	Poor	Eligible
ST-15-PER	39.854039	-82.583946	Perennial	140	25	8	QHEI	33	Poor	Eligible
Walnut Creek	39.830733	-82.592574	Perennial	130	70	8	QHEI	59	Fair	Eligible

ST-2-PER	39.828794	-82.593100	Perennial	75	15	1	HHEI	54	Class II	Eligible
ST-68-INT	39.821861	-82.597822	Intermittent	370	3	2	HHEI	52	Class II	Eligible
ST-63-EPH	39.814531	-82.605325	Ephemeral	150	2	1	HHEI	37	Class II	Eligible
ST-55-INT	39.800803	-82.617154	Intermittent	145	20	3	HHEI	65	Class II	Eligible
ST-53-INT	39.798781	-82.618683	Intermittent	170	15	3	HHEI	79	Class III	Eligible
ST-48-EPH	39.789227	-82.623228	Ephemeral	115	1	0.5	HHEI	37	Class II	Eligible
ST-44-INT	39.780704	-82.626219	Intermittent	80	15	4	HHEI	55	Class II	Eligible
ST-44-EPH	39.775429	-82.627703	Ephemeral	175	3	1	HHEI	27	Class I	Eligible
ST-42-INT	39.775106	-82.627853	Intermittent	240	12	4	HHEI	63	Class II	Eligible
Hocking River	39.729227	-82.633761	Perennial	330	60	40	QHEI	56.5	Fair	Eligible
ST-14-PER	39.725387	-82.631711	Perennial	70	30	8	QHEI	40.25	Poor	Eligible
ST-11-INT	39.719129	-82.638527	Intermittent	110	20	2.5	HHEI	26	Class I	Eligible
Hunters Run	39.702036	-82.638647	Perennial	200	60	11	QHEI	44	Poor	Eligible

4.5.1 ST-31-PER – (200-linear feet, Perennial stream)

ST-31-PER is located in northeast of Structure 31 and consisted of 200 linear feet of perennial stream within the SITE. The substrate of ST-31-PER consisted of silt and clay. ST-31-PER has an average width at the ordinary high water mark (OHWM) of 6 feet within the SITE. ST-31-PER appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.2 ST-25-PER – (75-linear feet, Perennial stream)

ST-25-PER is located north of Structure 25 and consisted of 75 linear feet of perennial stream within the SITE. The substrate of ST-25-PER consisted of sand and silt. ST-25-PER has an average width at the OHWM of 4.5 feet within the SITE. ST-25-PER appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.3 ST-15-PER – (140-linear feet, Perennial stream)

ST-15-PER is located north of Structure 15 and consisted of 140 linear feet of perennial stream within the SITE. The substrate of ST-15-PER consisted of silt, clay, and sand. ST-15-PER has an average width at the OHWM of 8 feet within the SITE. ST-15-PER appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.4 Walnut Creek – (130-linear feet, Perennial stream)

Walnut Creek is located north of Structure 3 and consisted of 130 linear feet of perennial stream within the SITE. The substrate of Walnut Creek consisted of cobble and gravel. Walnut Creek has an average

width at the OHWM of 8 feet within the SITE. Walnut Creek appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.5 ST-2-PER – (75-linear feet, Perennial stream)

ST-2-PER is located north of Structure 2 and consisted of 75 linear feet of perennial stream within the SITE. The substrate of ST-2-PER consisted of silt. ST-2-PER has an average width at the OHWM of 1 foot within the SITE. ST-2-PER appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.6 ST-68-INT – (370-linear feet, Intermittent stream)

ST-68-INT is located northeast of Structure 68 and consisted of 370 linear feet of intermittent stream within the SITE. The substrate of ST-68-INT consisted of silt and clay. ST-68-INT has an average width at the OHWM of 2 feet within the SITE. ST-68-INT appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.7 ST-63-EPH– (150-linear feet, Ephemeral stream)

ST-63-EPH is located northeast of Structure 63 and consisted of 150 linear feet of ephemeral stream within the SITE. ST-63-EPH emerges from a tile drain, flows southeastward and discharges into a second tile drain. The substrate of ST-63-EPH consisted of silt. ST-63-EPH has an average width at the OHWM of 1 foot within the SITE. ST-63-EPH did not appear to be a relatively permanent water and will likely not qualify as federally jurisdictional "Waters of the U.S."

4.5.8 ST-55-INT – (145-linear feet, Intermittent stream)

ST-55-INT is located southwest of Structure 55 and consisted of 145 linear feet of ST-55-INT stream within the SITE. The substrate of ST-55-INT consisted of sand and clay. ST-55-INT has an average width at the OHWM of 3 feet within the SITE. ST-55-INT appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.9 ST-53-INT – (170-linear feet, Intermittent stream)

ST-53-INT is located east of Structure 53 and consisted of 170 linear feet of intermittent stream within the SITE. The substrate of ST-53-INT consisted of cobble, gravel, and sand. ST-53-INT has an average width at the OHWM of 3 feet within the SITE. ST-53-INT appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.10 ST-48-EPH – (115-linear feet, Ephemeral stream)

ST-48-EPH is located south of Structure 49 and consisted of 115 linear feet of ephemeral stream within the SITE. The substrate of ST-48-EPH consisted of clay and silt. ST-48-EPH has an average width at the OHWM of 5 feet within the SITE. ST-48-EPH did not appear to be a relatively permanent water and will likely not qualify as federally jurisdictional "Waters of the U.S."

4.5.11 ST-44-INT – (80-linear feet, Intermittent stream)

ST-44-INT is located northwest of Structure 44 and consisted of 80 linear feet of intermittent stream within the SITE. The substrate of ST-44-INT consisted of cobble and gravel. ST-44-INT has an average width at the OHWM of 4 feet within the SITE. ST-44-INT appears to be a relatively permanent waterand will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.12 ST-44-EPH – (175-linear feet, Ephemeral stream)

ST-44-EPH is located southwest of Structure 42 and consisted of 175 linear feet of ephemeral stream within the SITE. The substrate of ST-44-EPH consisted of silt. ST-44-EPH has an average width at the

OHWM of 1 foot within the SITE. ST-44-EPH appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.13 ST-42-INT – (240-linear feet, Intermittent stream)

ST-42-INT is located southwest of Structure 42 and consisted of 240 linear feet of intermittent stream within the SITE. The substrate of ST-44-EPH consisted of gravel, sand, and silt. ST-44-EPH has an average width at the OHWM of 4 feet within the SITE. ST-44-EPH appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.14 Hocking River – (330-linear feet, Perennial stream)

Hocking River is located southeast of Structure 19 and consisted of 300 linear feet of Hocking River stream within the SITE. The substrate of Hocking River consisted of cobble, sand, and silt. Hocking River has an average width at the OHWM of 40 feet within the SITE. Hocking River appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S." Additionally, Hocking River is designated by the U.S. Army Corps of Engineers (USACE) as a Section 10 Navigable Waterway 79 miles upstream of the confluence of the Ohio River.

4.5.15 ST-14-PER – (70-linear feet, Perennial stream)

ST-14-PER is located north of Structure 15 and consisted of 70 linear feet of perennial stream within the SITE. The substrate of ST-14-PER consisted of cobble, gravel, and sand. ST-14-PER has an average width at the OHWM of 8 feet within the SITE. ST-14-PER appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.16 ST-11-INT – (110-linear feet, Intermittent stream)

ST-11-INT is located northeast of Structure 11 and consisted of 110 linear feet of intermittent stream within the SITE. The substrate of ST-11-INT consisted of clay and silt. ST-11-INT has an average width at the OHWM of 25 feet within the SITE. ST-11-INT appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.17 Hunters Run – (200-linear feet, Perennial stream)

Hunters Run is located north of Structure 1 and West Lancaster Station. It consisted of 300 linear feet of perennial stream within the SITE. The substrate of Hunters Run consisted of cobble, gravel, and sand. Hunters Run has an average width at the OHWM of 11 feet within the SITE. Hunters Run appears to be a relatively permanent water and will likely qualify as federally jurisdictional "Waters of the U.S.".

4.5.18 OW-32-POND – (±0.50-acre, Pond)

OW-32-POND is located south of Structure 32 of the SITE. OW-32-POND appears to be a manmade feature.

4.5.19 OW-22-POND – (±*0.56*-acre, *Pond)*

OW-22-POND is located north of Structure 22 of the SITE. OW-22-POND appears to be a manmade feature.

CHAPTER 5 CONCLUSIONS

On March 27 and 28, 2024, V3 performed a wetland delineation of the SITE beginning at West Millersport Station, southwest of OH-204 and OH-37, Millersport, OH, and extends approximately 4.6 mile southwest to South Baltimore Station and continues approximately 9.8 miles southwest to West Lancaster Station, northeast of US Highway 22 and OH-57 in Fairfield County, Ohio.

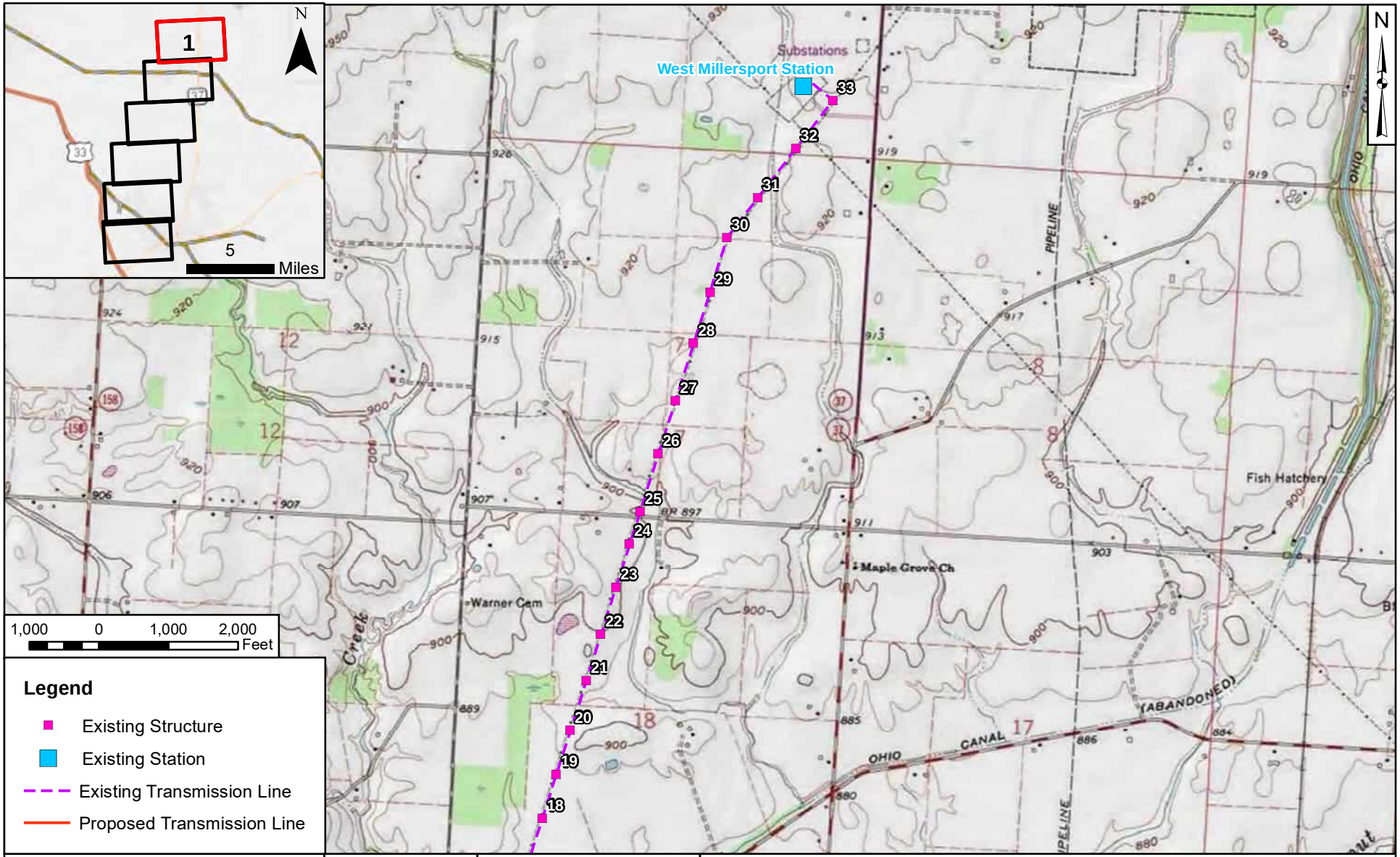
Table 5-1: Aquatic Features Identified On-SITE

Feature	Feature Type	Size On-SITE	Delineation Figure Sheet
WL-12-PEM	Emergent Wetland	0.06 ac	10
WL-10-PEM	Emergent Wetland	0.17 ac	11
WL-5-PEM	Emergent Wetland	0.11 ac	13
WL-68-PEM	Emergent Wetland	0.10 ac	15
WL-60-PEM	Emergent Wetland	1.91 ac	18
WL-50-PEM	Emergent Wetland	0.03 ac	22
WL-41-PEM	Emergent Wetland	0.40 ac	26
ST-31-PER	Perennial stream	200 lf	2
ST-25-PER	Perennial stream	115 lf	4
ST-15-PER	Perennial stream	140 lf	8
Walnut Creek	Perennial stream	130 lf	13
ST-2-PER	Perennial stream	75 lf	14
ST-68-INT	Intermittent stream	370 lf	15
ST-63-EPH	Ephemeral stream	150 lf	17
ST-55-INT	Intermittent stream	145 lf	20
ST-53-INT	Intermittent stream	170 lf	20
ST-48-EPH	Ephemeral stream	115 lf	22
ST-44-INT	Intermittent stream	80 lf	24
ST-44-EPH	Ephemeral stream	175 lf	25
ST-42-INT	Intermittent stream	240 lf	25 & 26
Hocking River	Perennial stream	330 lf	36
ST-14-PER	Perennial stream	70 lf	37
ST-11-INT	Intermittent stream	110 lf	38
Hunters Run	Perennial stream	200 lf	42
OW-32-POND	Pond	0.50 ac	30
OW-22-POND	Pond	0.56 ac	34

- Seventeen streams were identified on-SITE. All streams, except ST-63-EPH and ST-48-EPH, appear to be relatively permanent waters that will likely qualify as federally jurisdictional "Waters of the U.S.".
- Eight wetlands were identified on-SITE. Wetlands WL-68-PEM, WL-41-PEM and WL-18-PEM appear to have a connection to relatively permanent waters, therefore, will likely qualify as a "Waters of the U.S.". All the other wetlands did not appear to have direct connection to relatively permanent waters and are likely to be considered isolated.

- Two stormwater ponds were identified on-SITE. One stormwater pond was identified within an inaccessible residential area. The ponds appear to be isolated man-made features.
- An official species list obtained from the USFWS IPaC website indicated that the SITE is within the ranges of the federally endangered Indiana bat, northern long-eared bat, the proposed endangered tricolored bat, the federally threatened eastern massasuaga, and round hickorynut, the proposed endangered salamander Mussel and the candidate for listing monarch butterfly. The USFWS made recommendations to avoid impacts to on-SITE streams and wetlands, and to avoid clearing potential roost trees for the federally listed bat species outside the recommended seasonal clearing dates, 1 October to 31 March. The USFWS stated the due to the project, type, size, and location, the agency does not anticipate adverse effects to any other federally endangered, threatened, or proposed species or proposed or designated critical habitat.
- Correspondence with the ODNR indicated records of the state species of special concern cerulean warbler (*Setophaga cerulea*) and kidneyshell (*Ptychobranchus fasciolaris*), a Great blue Heron rookery, Appalachian oak forest plant community, and oak-maple forest plant community within a one-mile radius of the SITE. Potentially suitable habitat for the kidneyshell was observed within the SITE. The documented plant communities are anticipated to occur within forested areas adjacent to the SITE Additionally, the ODNR Division of Fish and Wildlife stated that the SITE is within the range of seven ETR species. The ODNR stated that the project is not likely to impact these species if habitat is not impacted and gave recommendations to avoid and minimize impacts to these species and their habitats.

Figures



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PROJECT NO.: 210180.182

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DATE: 03/15/2024

SCALE: See Scale Bar

CLIENT:
American Electric Power
8600 Smiths Mill Road
New Albany, Ohio 43054

BASE LAYER:
USGS Topographic Map
Millersport, Baltimore, Carroll & Amanda, OH Quandrangle

TITLE:

USGS TOPOGRAPHIC MAP

SITE:
West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:
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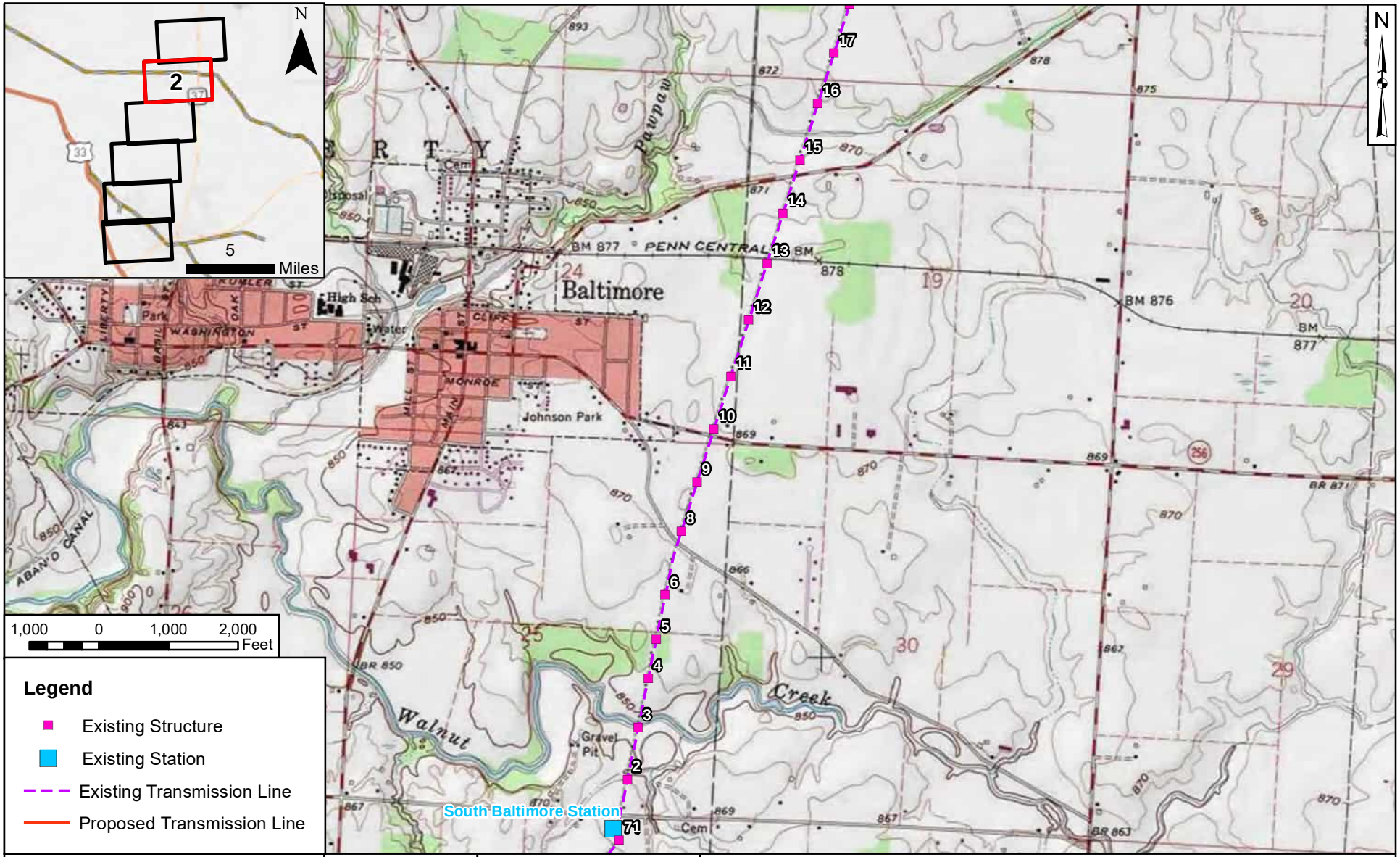

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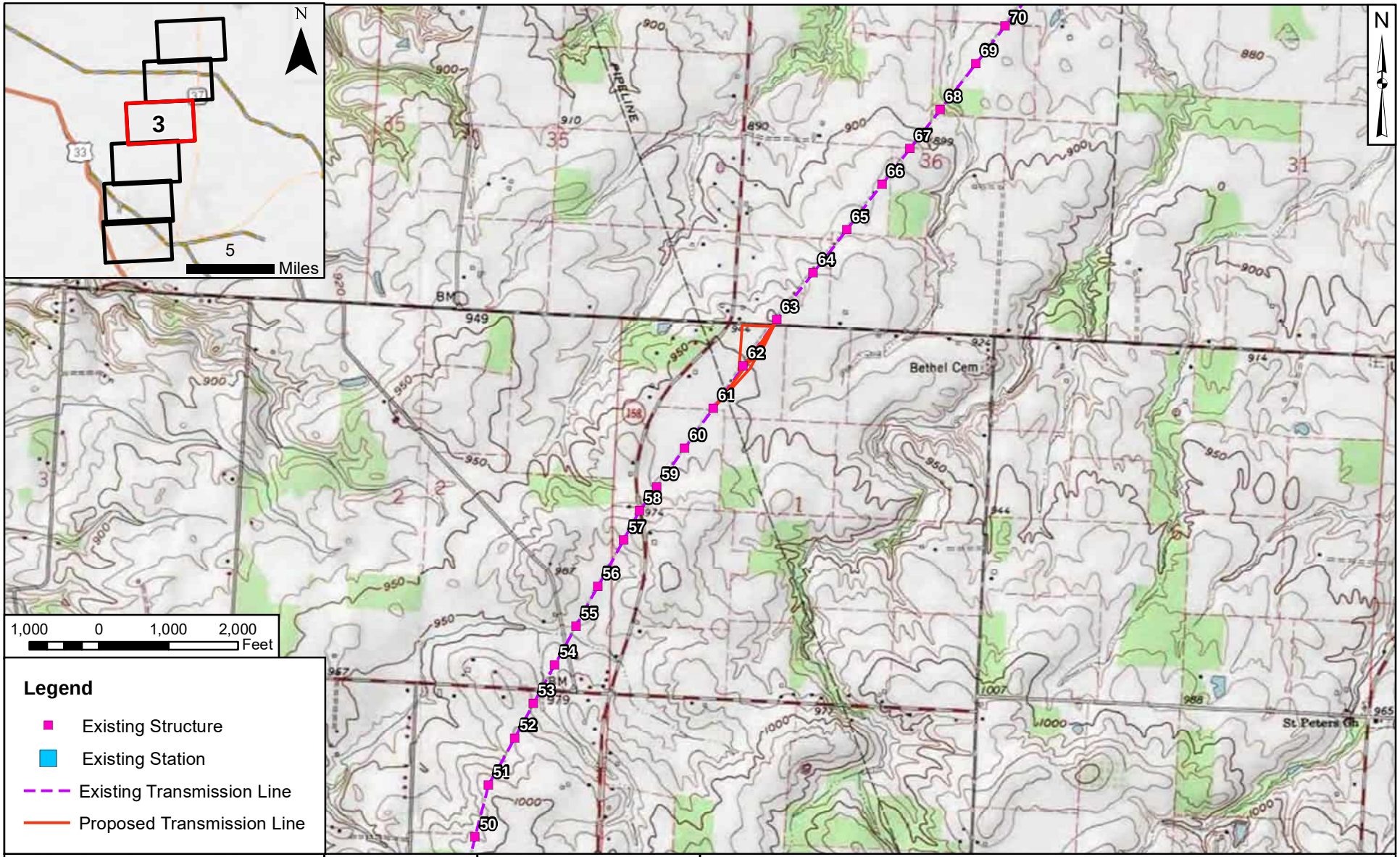

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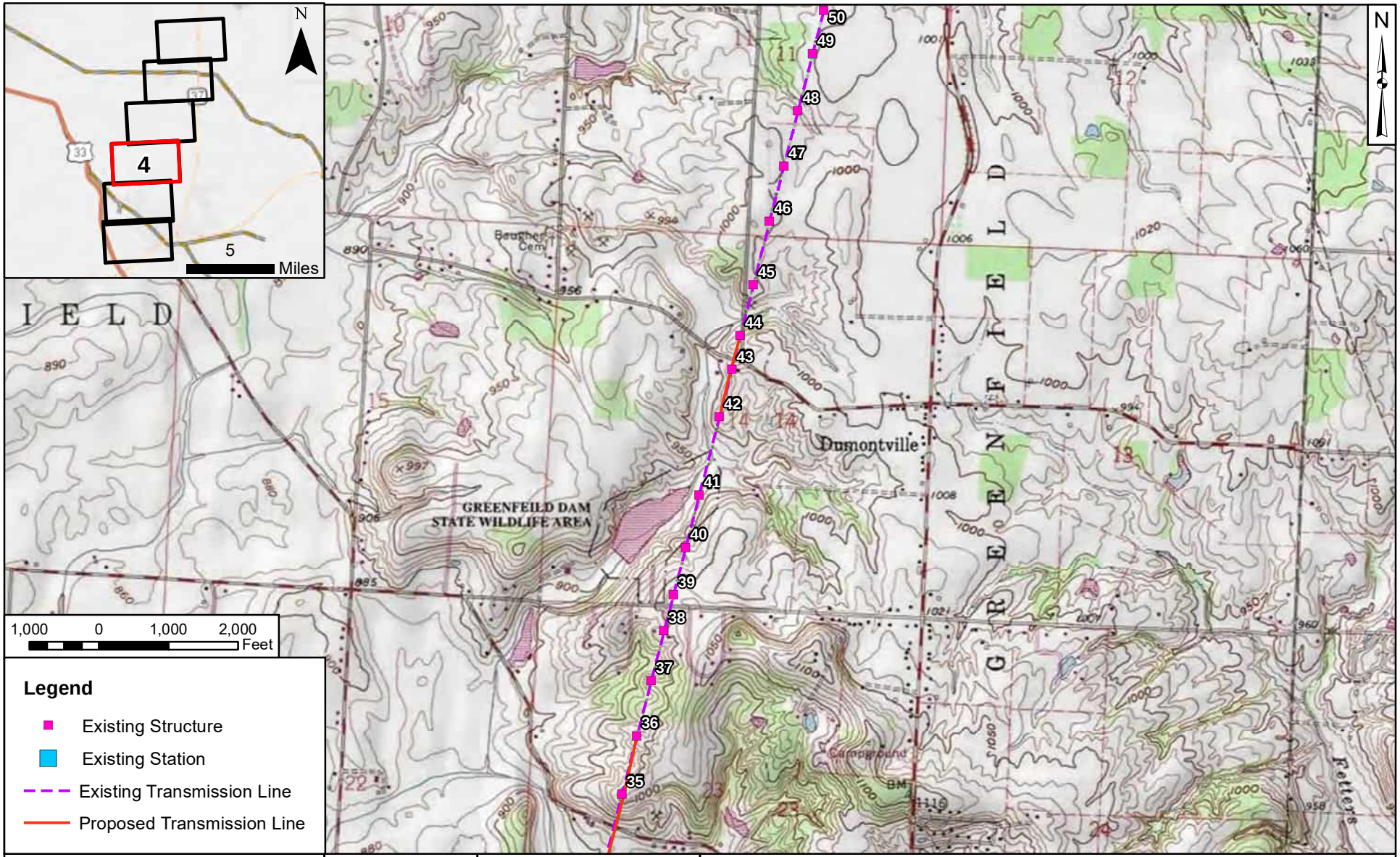

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PROJECT NO.: 210180.182
CREATED BY: ODS
DATE: 03/15/2024
SCALE: See Scale Bar

CLIENT:
American Electric Power
8600 Smiths Mill Road
New Albany, Ohio 43054

BASE LAYER:
USGS Topographic Map
Millersport, Baltimore, Carroll & Amanda, OH Quandrangle

TITLE:

USGS TOPOGRAPHIC MAP

SITE:
West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:
1

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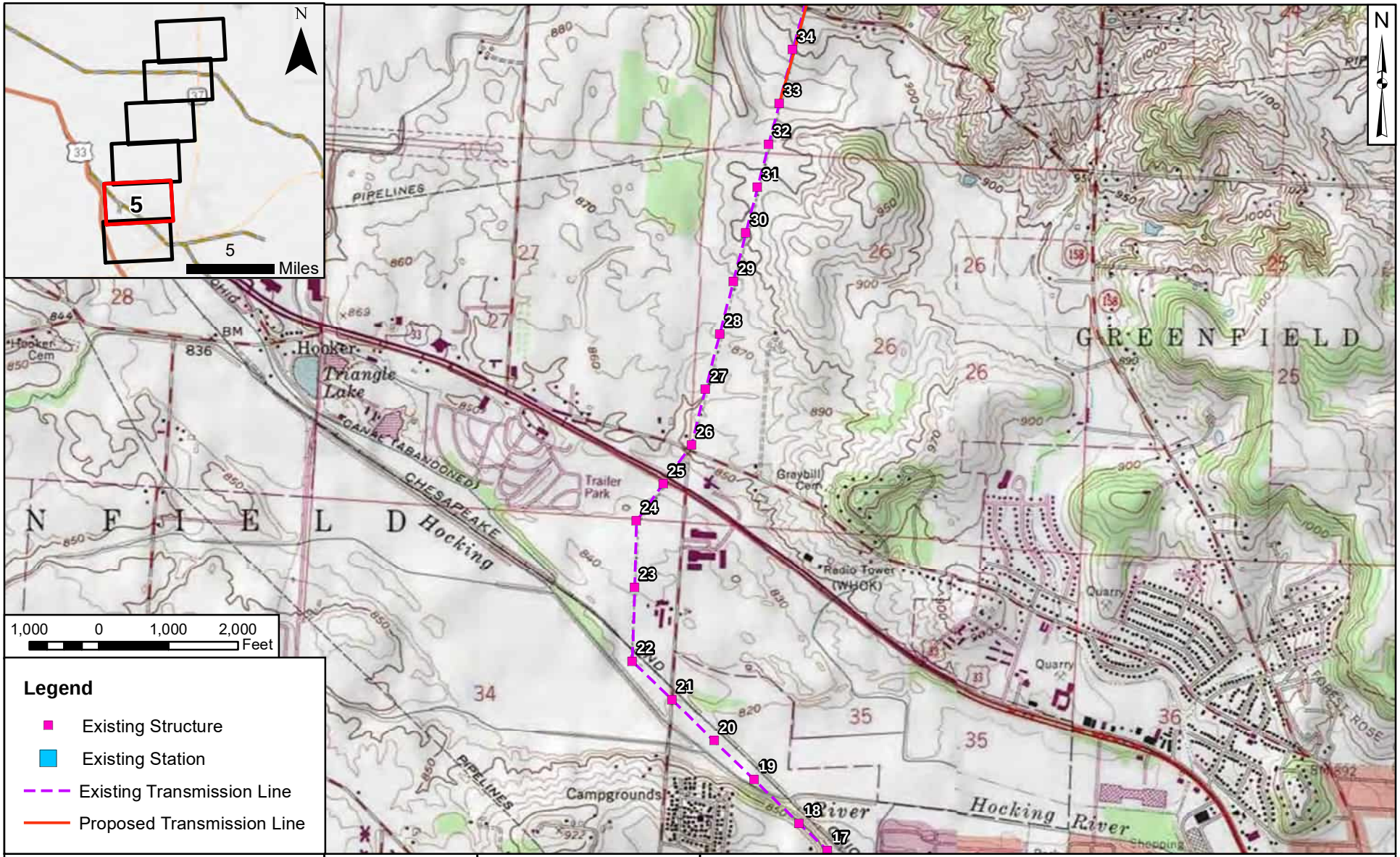

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138kV Rebuild
Fairfield County, Ohio

FIGURE:

1

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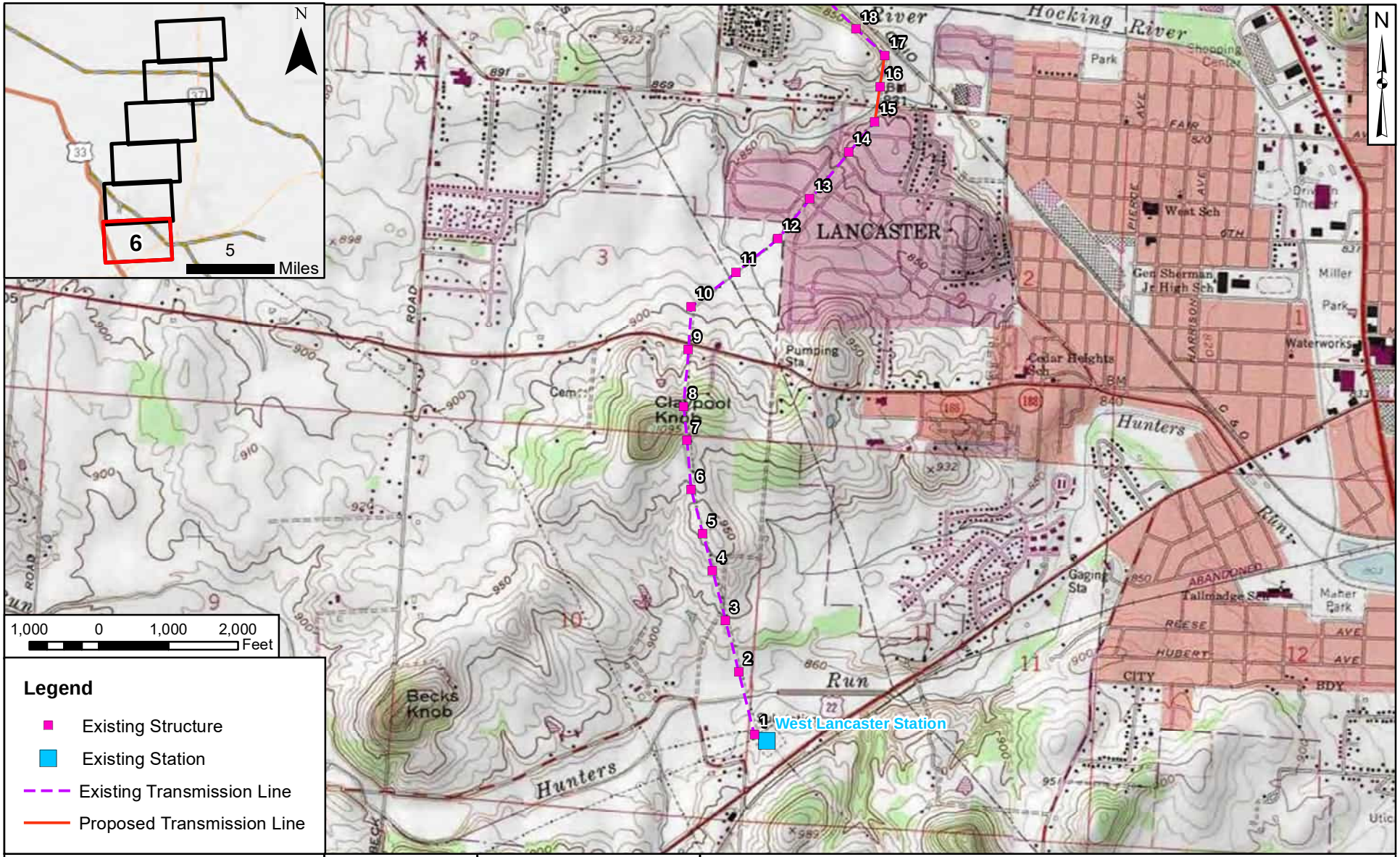

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TITLE:

USGS TOPOGRAPHIC MAP

SITE: West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE: 1

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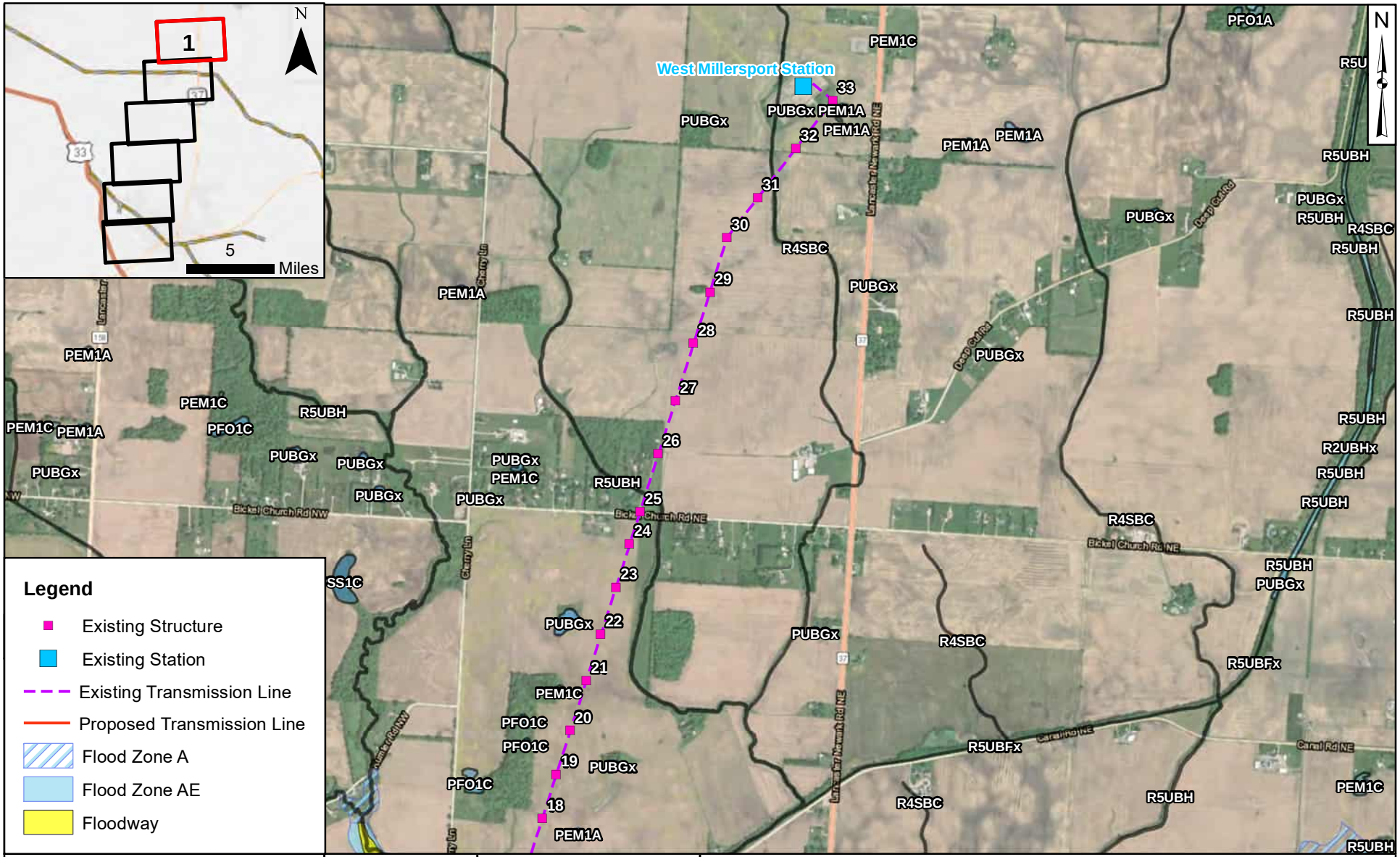

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CREATED BY:	ODS
DATE:	03/18/2024
SCALE:	See Scale Bar
CLIENT:	American Electric Power 8600 Smiths Mill Road New Albany, Ohio 43054
BASE LAYER:	Aerial Imagery (2023)

TITLE:

NATIONAL WETLAND INVENTORY (NWI) & FLOOD ZONES OF FAIRFIELD COUNTY, OH MAP

SITE:

West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:

2

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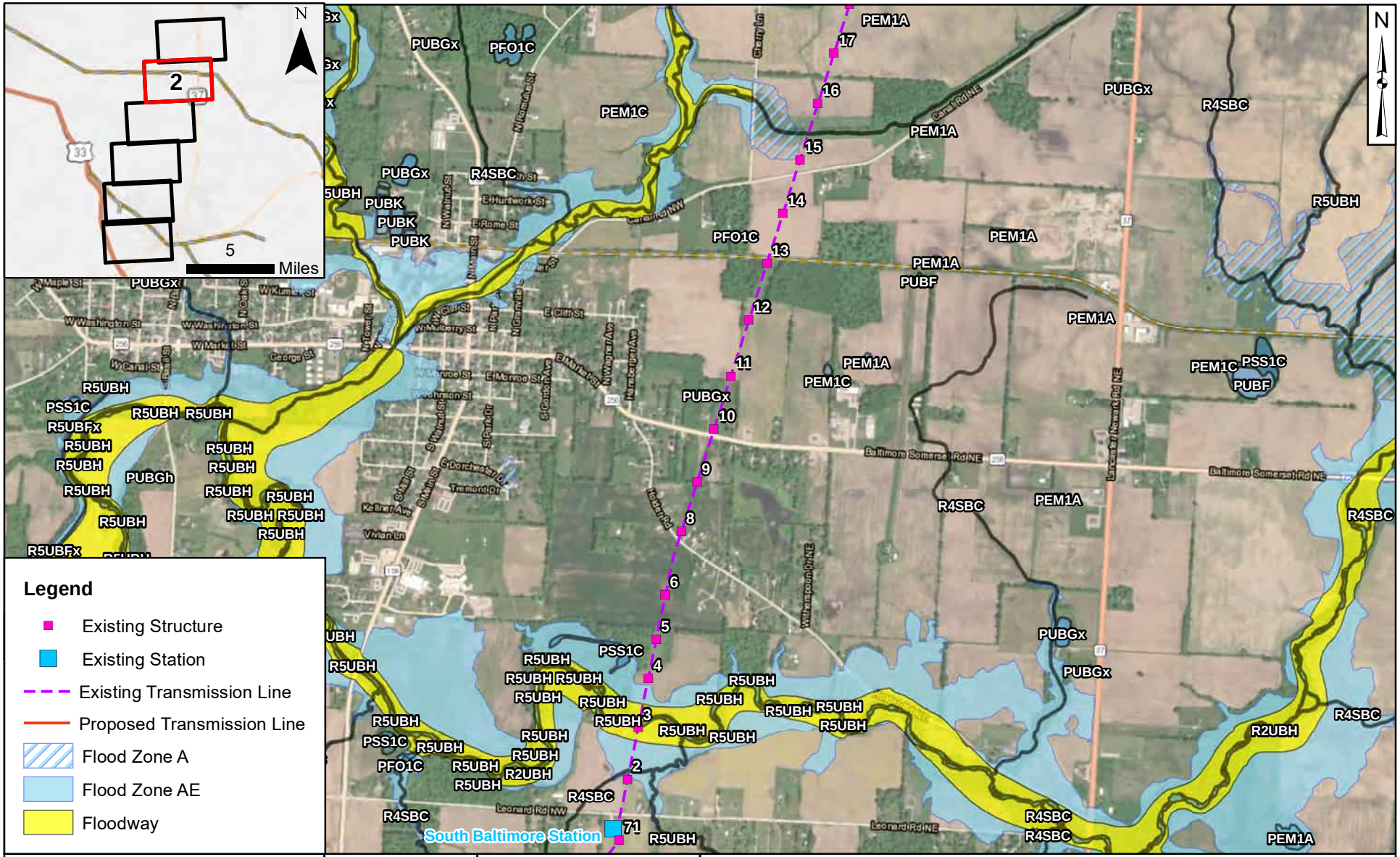

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CREATED BY:	ODS
DATE:	03/18/2024
SCALE:	See Scale Bar
CLIENT:	American Electric Power 8600 Smiths Mill Road New Albany, Ohio 43054
BASE LAYER:	Aerial Imagery (2023)

TITLE:

NATIONAL WETLAND INVENTORY (NWI) & FLOOD ZONES OF FAIRFIELD COUNTY, OH MAP

SITE: West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE: 2

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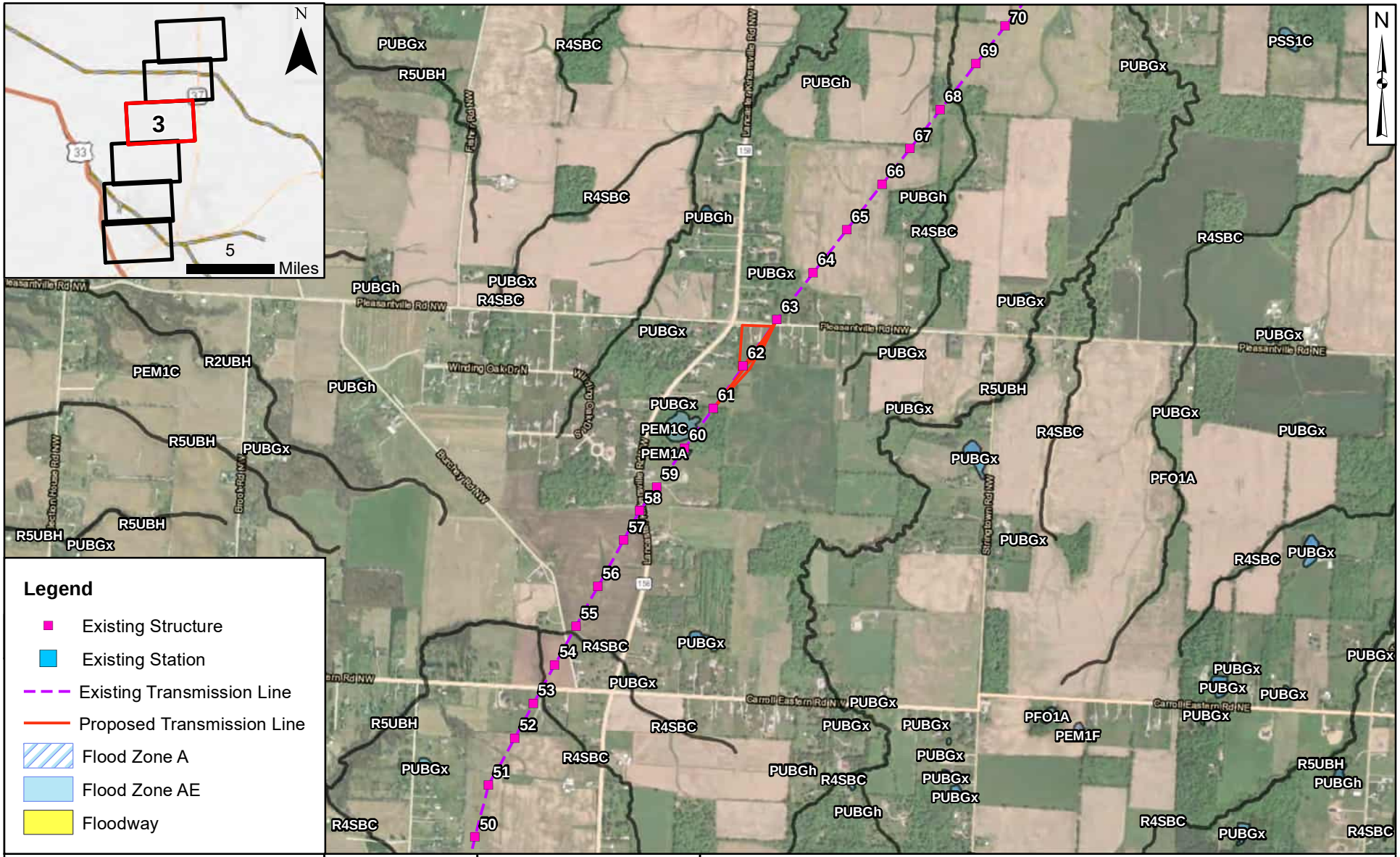

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SCALE:	See Scale Bar

CLIENT:
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8600 Smiths Mill Road
New Albany, Ohio 43054

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Aerial Imagery
(2023)

TITLE:
NATIONAL WETLAND INVENTORY (NWI) & FLOOD ZONES OF FAIRFIELD COUNTY, OH MAP

SITE:
West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:
2

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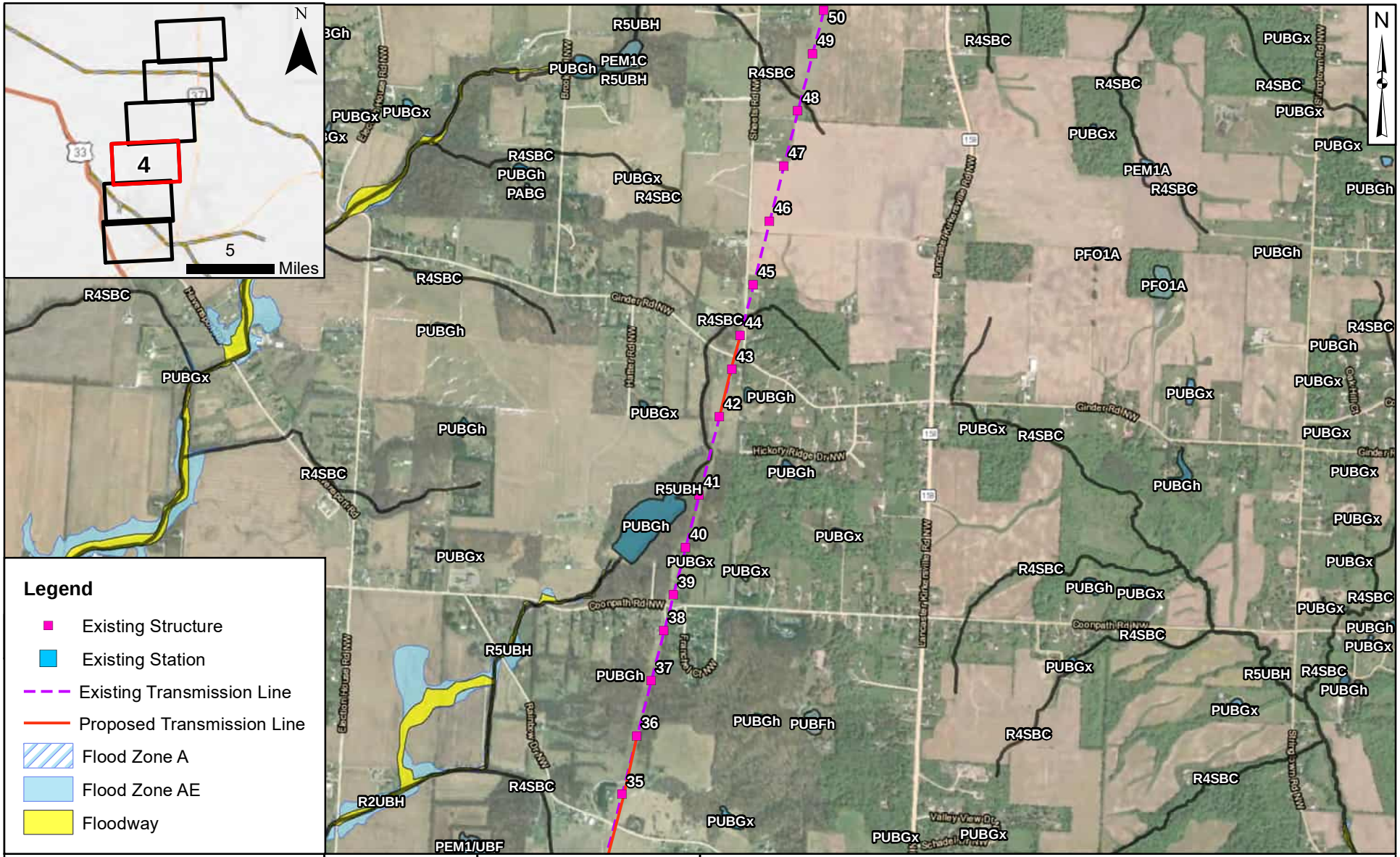

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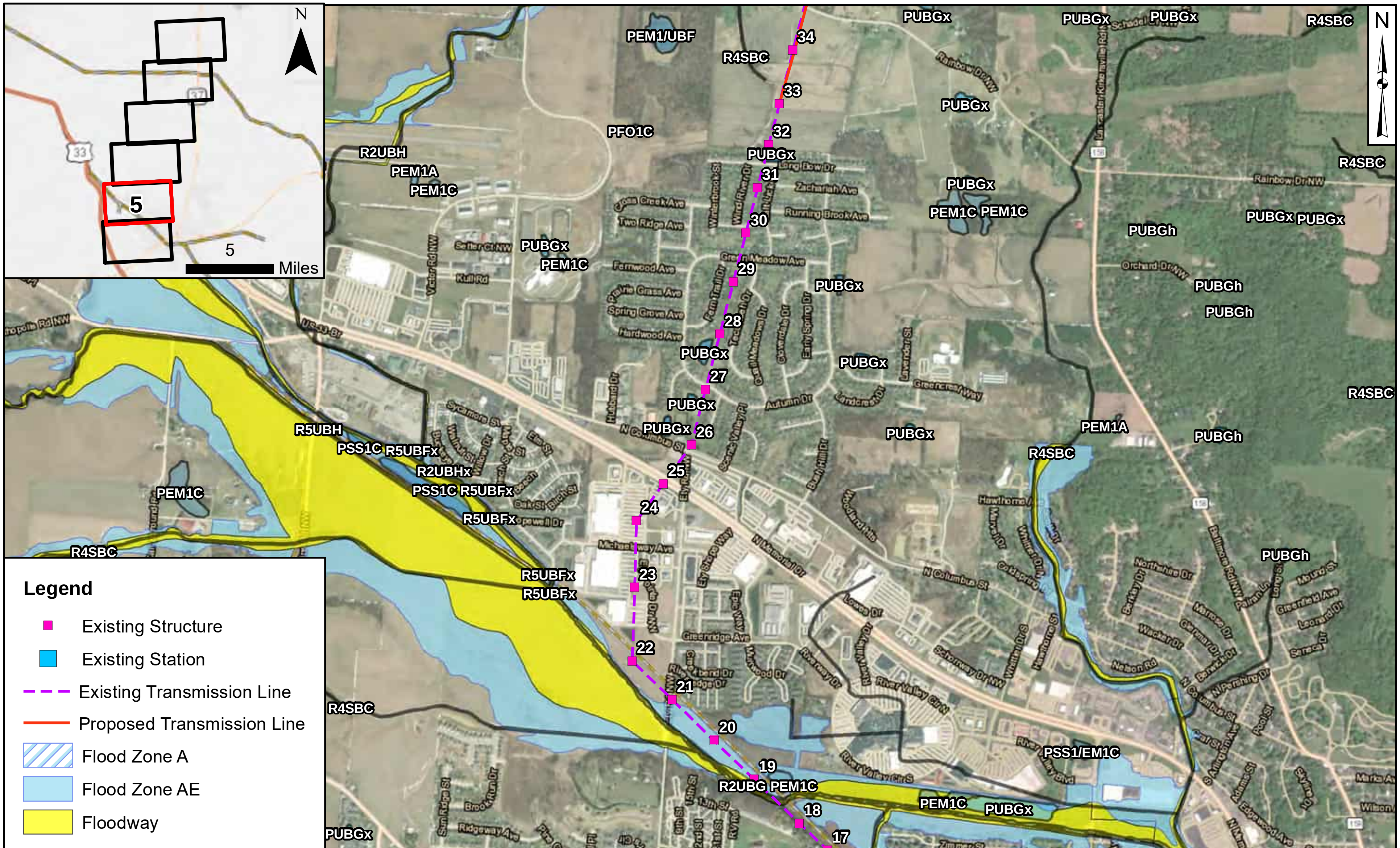
NATIONAL WETLAND INVENTORY (NWI) & FLOOD ZONES OF FAIRFIELD COUNTY, OH MAP

SITE: West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE: 2

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG2NWI&NFHL210180182.mxd



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TITLE:
NATIONAL WETLAND INVENTORY (NWI) & FLOOD ZONES OF FAIRFIELD COUNTY, OH MAP

SITE:
West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:
2
Page 5 of 6

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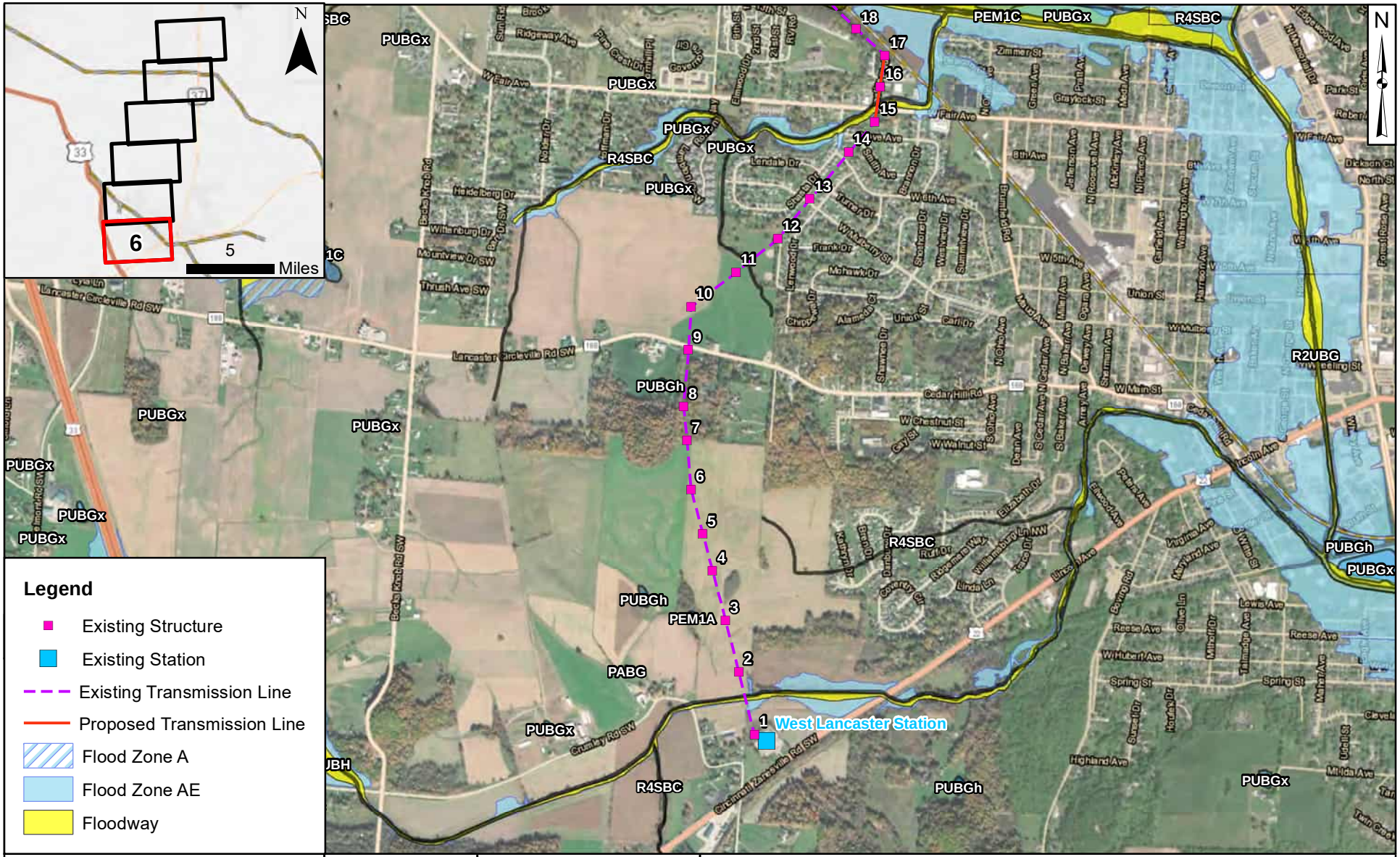

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NATIONAL WETLAND INVENTORY (NWI) & FLOOD ZONES OF FAIRFIELD COUNTY, OH MAP

SITE: West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE: 2

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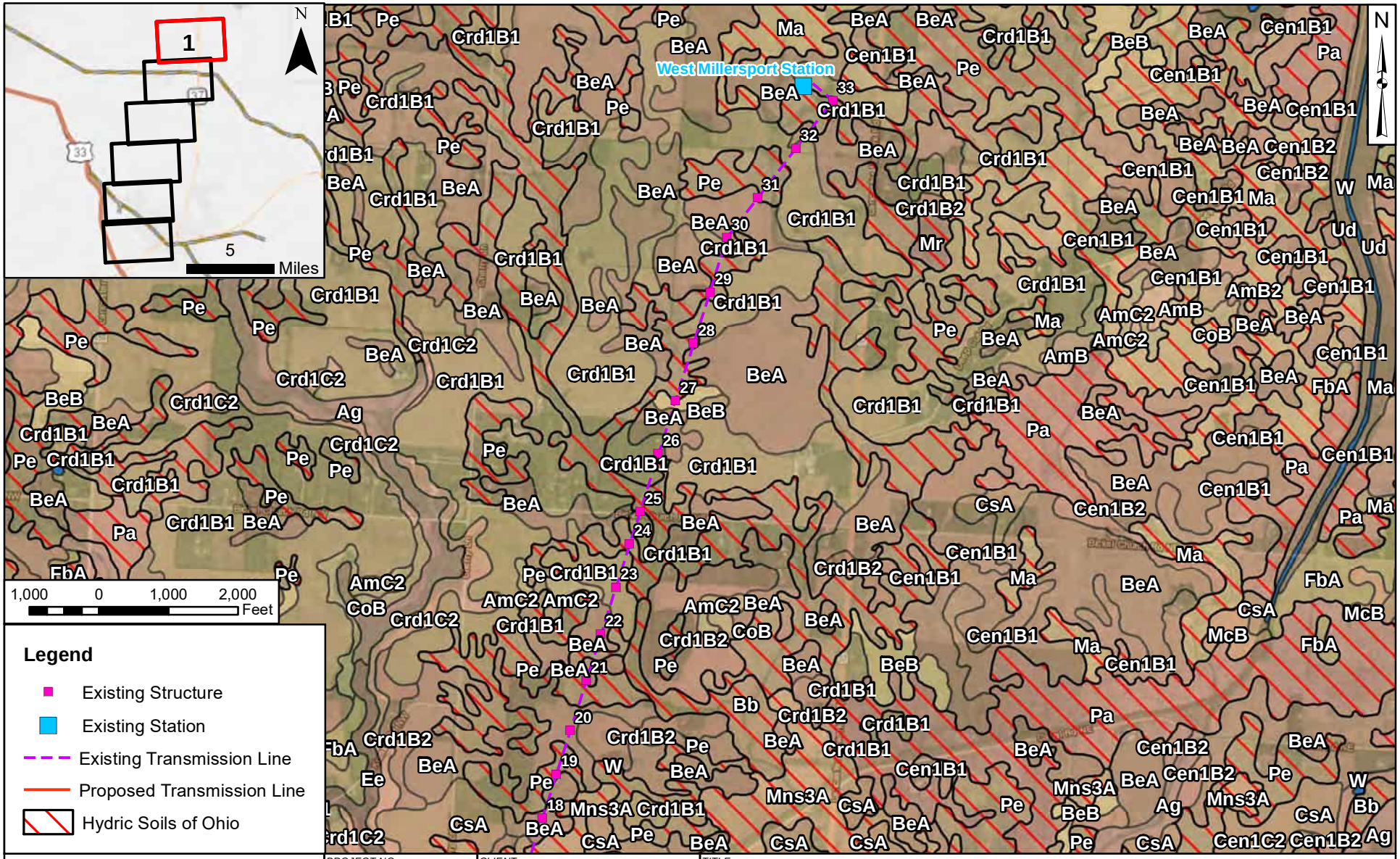

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SCALE:	See Scale Bar

CLIENT:
American Electric Power
8600 Smiths Mill Road
New Albany, Ohio 43054

BASE LAYER:
Aerial Imagery
(2023)

TITLE:
SOIL SURVEY OF FAIRFIELD COUNTY, OH MAP

SITE:
West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:
3

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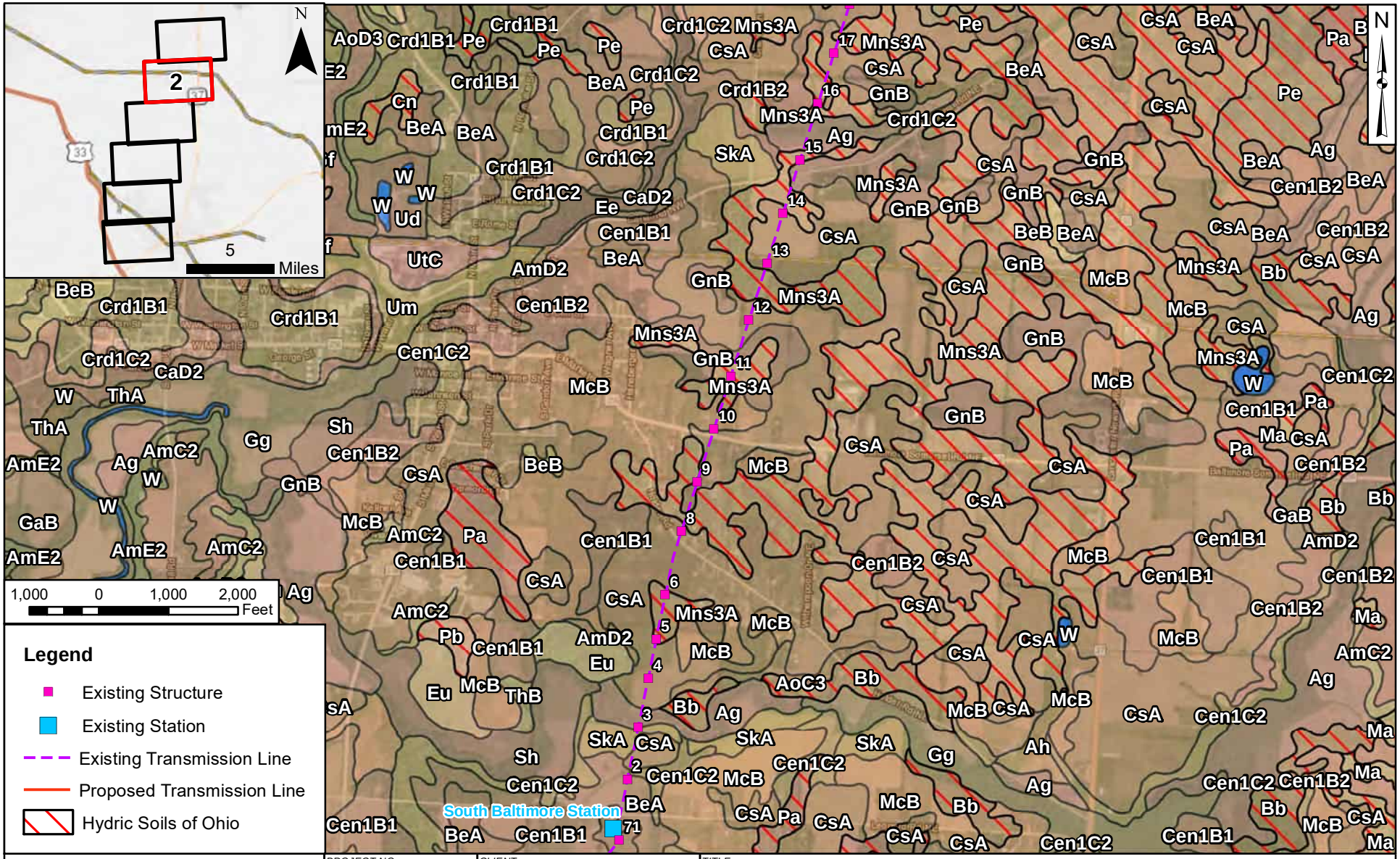

619 N. Pennsylvania Street Indianapolis, IN 46204 317.423.0690 phone www.v3co.com	PROJECT NO.: 210180.182 CREATED BY: ODS	CLIENT: American Electric Power 8600 Smiths Mill Road New Albany, Ohio 43054	TITLE: **SOIL SURVEY OF FAIRFIELD COUNTY, OH MAP**
Visio, Vertere, Virtute... *"The Vision To Transform With Excellence"*	DATE: 03/18/2024 SCALE: See Scale Bar	BASE LAYER: Aerial Imagery (2023)	SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio

FIGURE: 3

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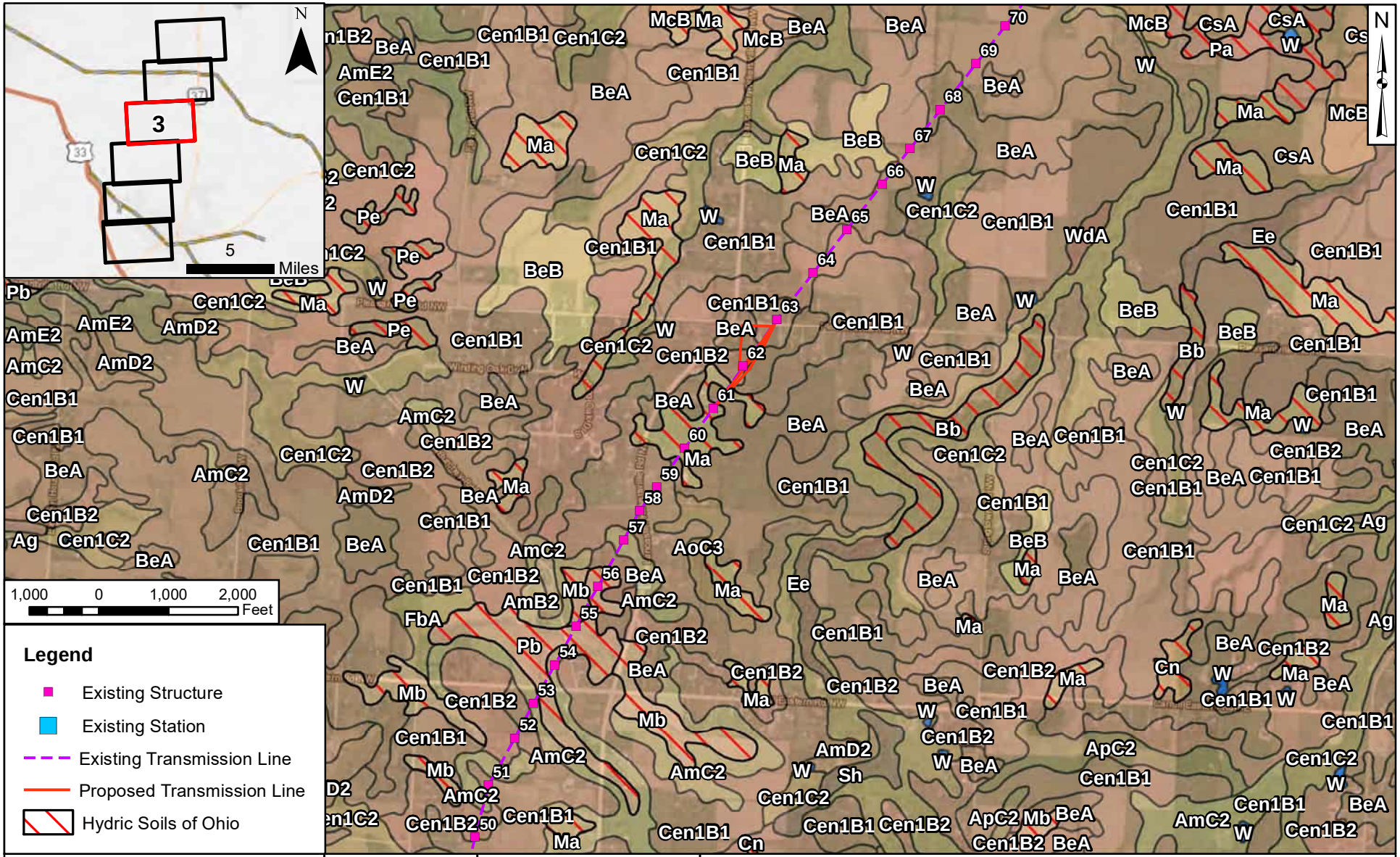

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Visio, Vertere, Virtute... *"The Vision To Transform With Excellence"*	DATE: 03/18/2024 SCALE: See Scale Bar	BASE LAYER: Aerial Imagery (2023)	SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	FIGURE: 3 Page 3 of 6

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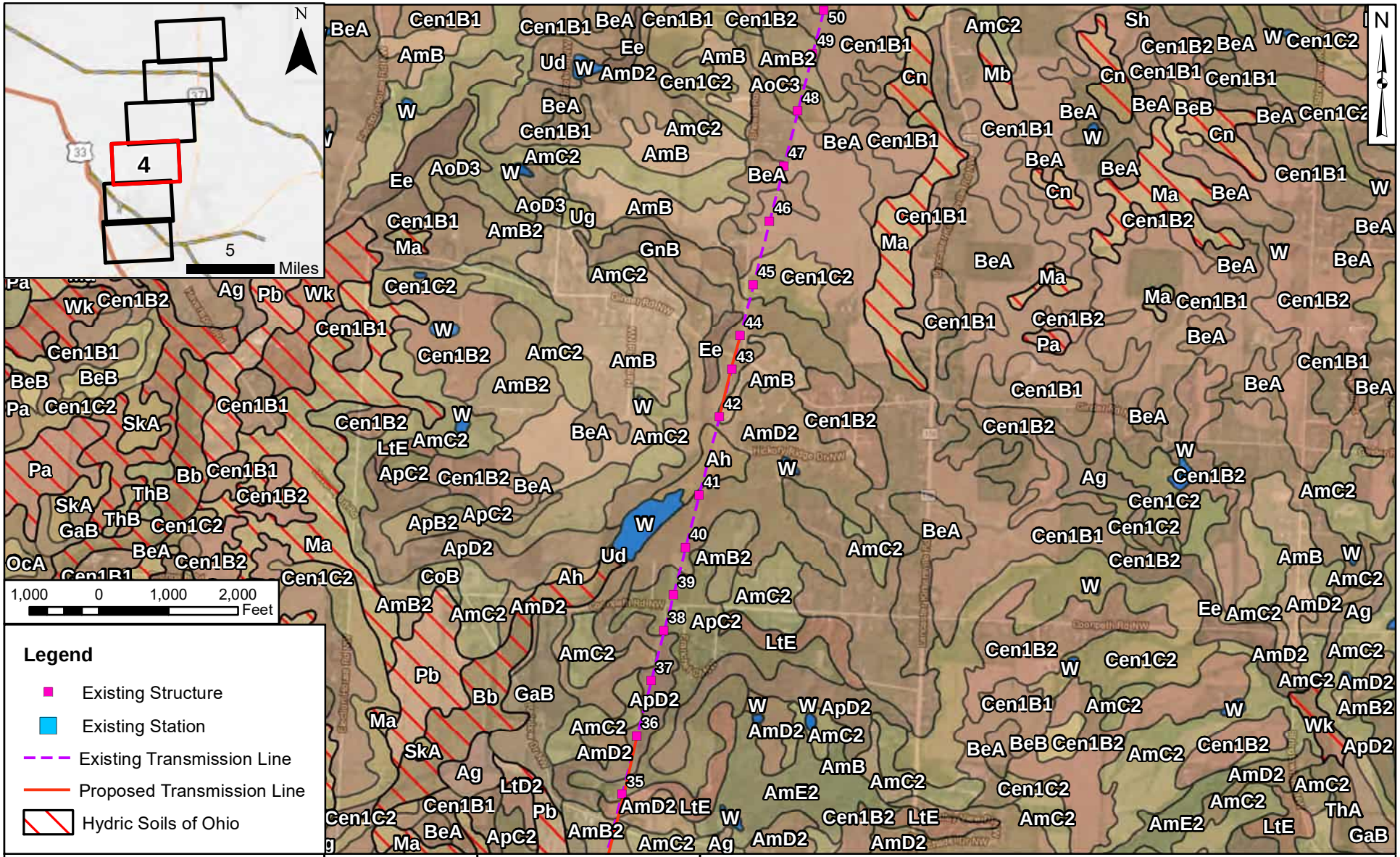

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PROJECT NO.: 210180.182

CREATED BY: ODS

DATE: 03/18/2024

SCALE: See Scale Bar

CLIENT: American Electric Power
8600 Smiths Mill Road
New Albany, Ohio 43054

BASE LAYER: Aerial Imagery (2023)

TITLE:

SOIL SURVEY OF FAIRFIELD COUNTY, OH MAP

SITE: West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE: 3

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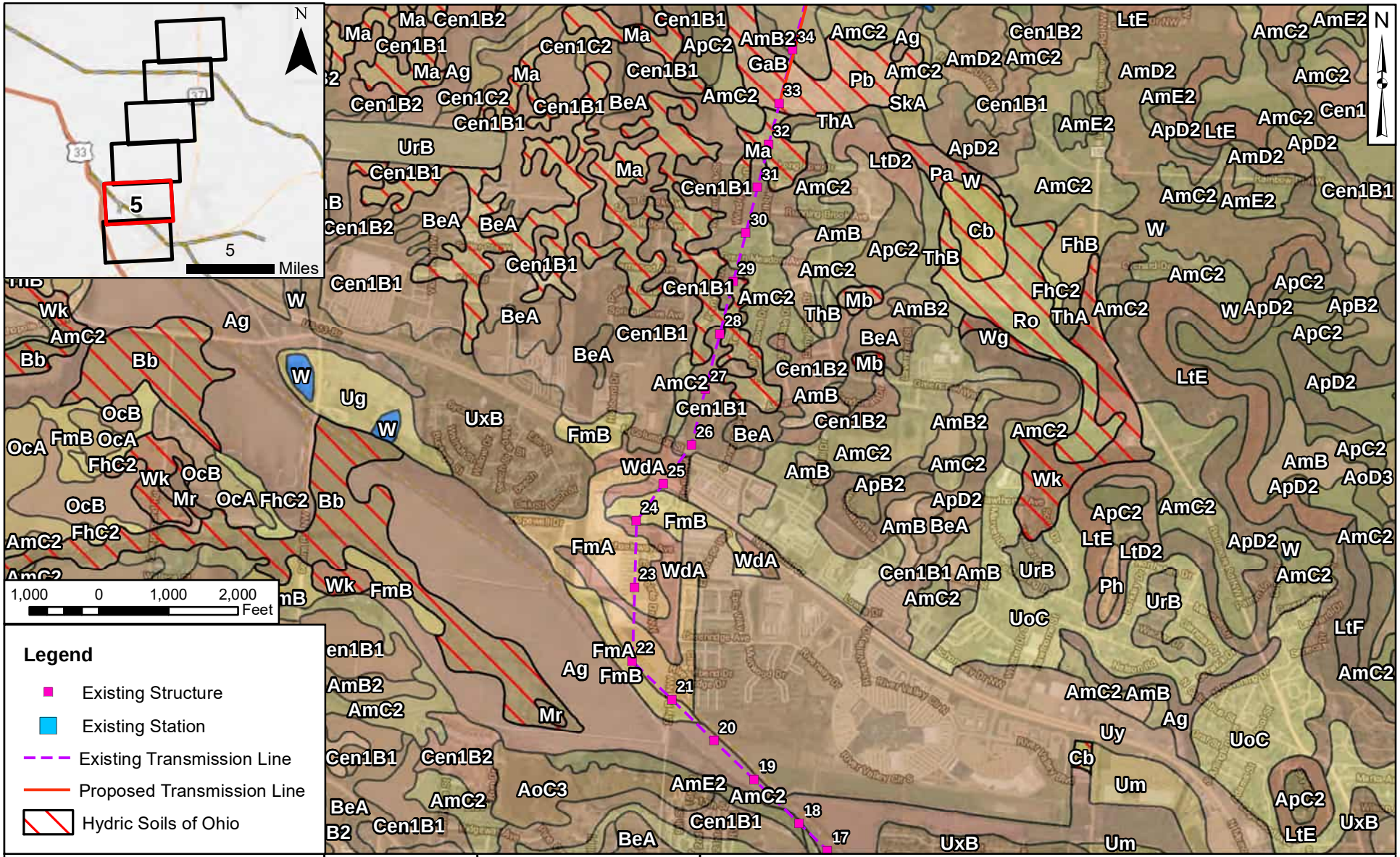

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PROJECT NO.:	210180.182
CREATED BY:	ODS
DATE:	03/18/2024
SCALE:	See Scale Bar

CLIENT:
American Electric Power
8600 Smiths Mill Road
New Albany, Ohio 43054

BASE LAYER:
Aerial Imagery
(2023)

TITLE:
SOIL SURVEY OF FAIRFIELD COUNTY, OH MAP

SITE:
West Lancaster – South Baltimore – West Millersport
138kV Rebuild
Fairfield County, Ohio

FIGURE:
3

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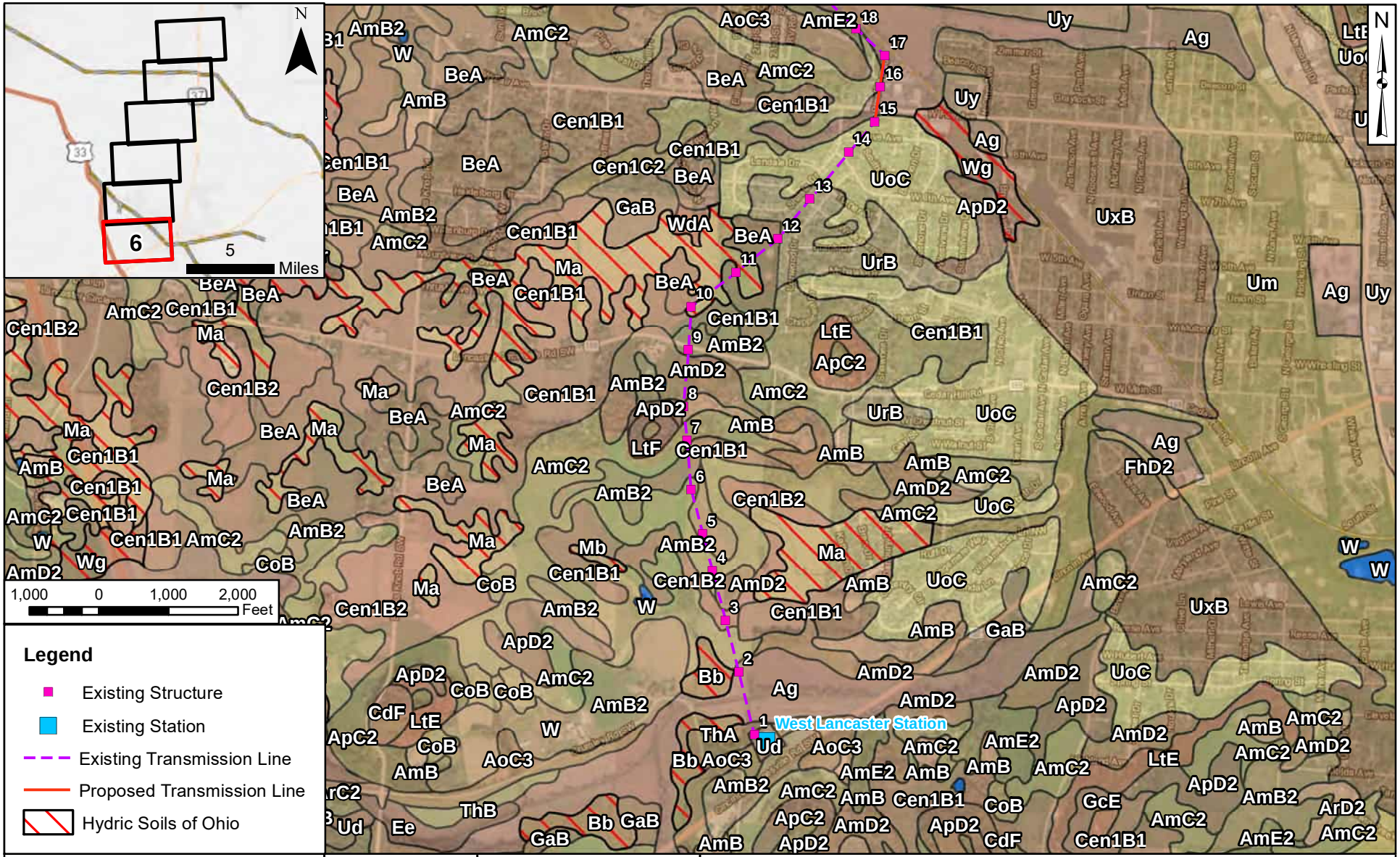

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PROJECT NO.: 210180.182	CLIENT: American Electric Power, 8600 Smiths Mill Road, New Albany, Ohio 43054
CREATED BY: ODS	
DATE: 03/18/2024	BASE LAYER: Aerial Imagery (2023)
SCALE: See Scale Bar	

TITLE:

SOIL SURVEY OF FAIRFIELD COUNTY, OH MAP

SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio

FIGURE: 3 Page 6 of 6

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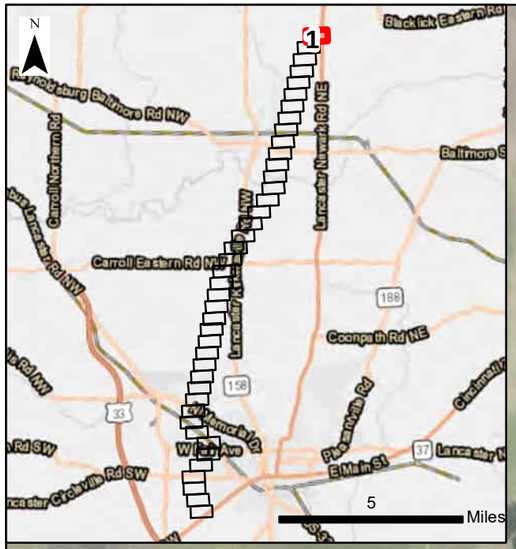

AMERICAN ELECTRIC POWER
BOUNDLESS ENERGY

8600 Smiths Mill Road
New Albany, Ohio 43054
www.aep.com

619 N. Pennsylvania Street
Indianapolis, IN 46204
www.v3co.com

PROJECT NO.: 210180.182
CREATED BY: ODS
DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

LEGEND:

- Existing Structure
- Existing Station
- Existing Transmission Line
- Proposed Transmission Line
- Environmental Study Area
- Distribution Pole
- Stormwater Inlet
- Existing Utility
- Potential Obstacle
- Existing Culvert
- Data Point
- Topography
- Swale
- Roadside Ditch
- Guardrail
- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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PROJECT NO.: 210180.182
CREATED BY: ODS
DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

LEGEND:

- Existing Structure
- Existing Station
- Existing Transmission Line
- Proposed Transmission Line
- Environmental Study Area
- Distribution Pole
- Stormwater Inlet
- Existing Utility
- Potential Obstacle
- Existing Culvert
- Data Point
- Topography
- Swale
- Roadside Ditch
- Guardrail
- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

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AMERICAN ELECTRIC POWER BOUNDLESS ENERGY	8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	LEGEND:			
		CREATED BY: ODS	Existing Structure	Stormwater Inlet	Swale	Stream
			Existing Station	Existing Utility	Roadside Ditch	Pond
V3	619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024	Existing Transmission Line	Potential Obstacle	Guardrail	Wetland PEM
			Proposed Transmission Line	Existing Culvert	Existing Fence	
		BASE LAYER: Aerial Imagery (2022)	Environmental Study Area	Data Point	Gas Line	
			Distribution Pole	Topography	Railroad	

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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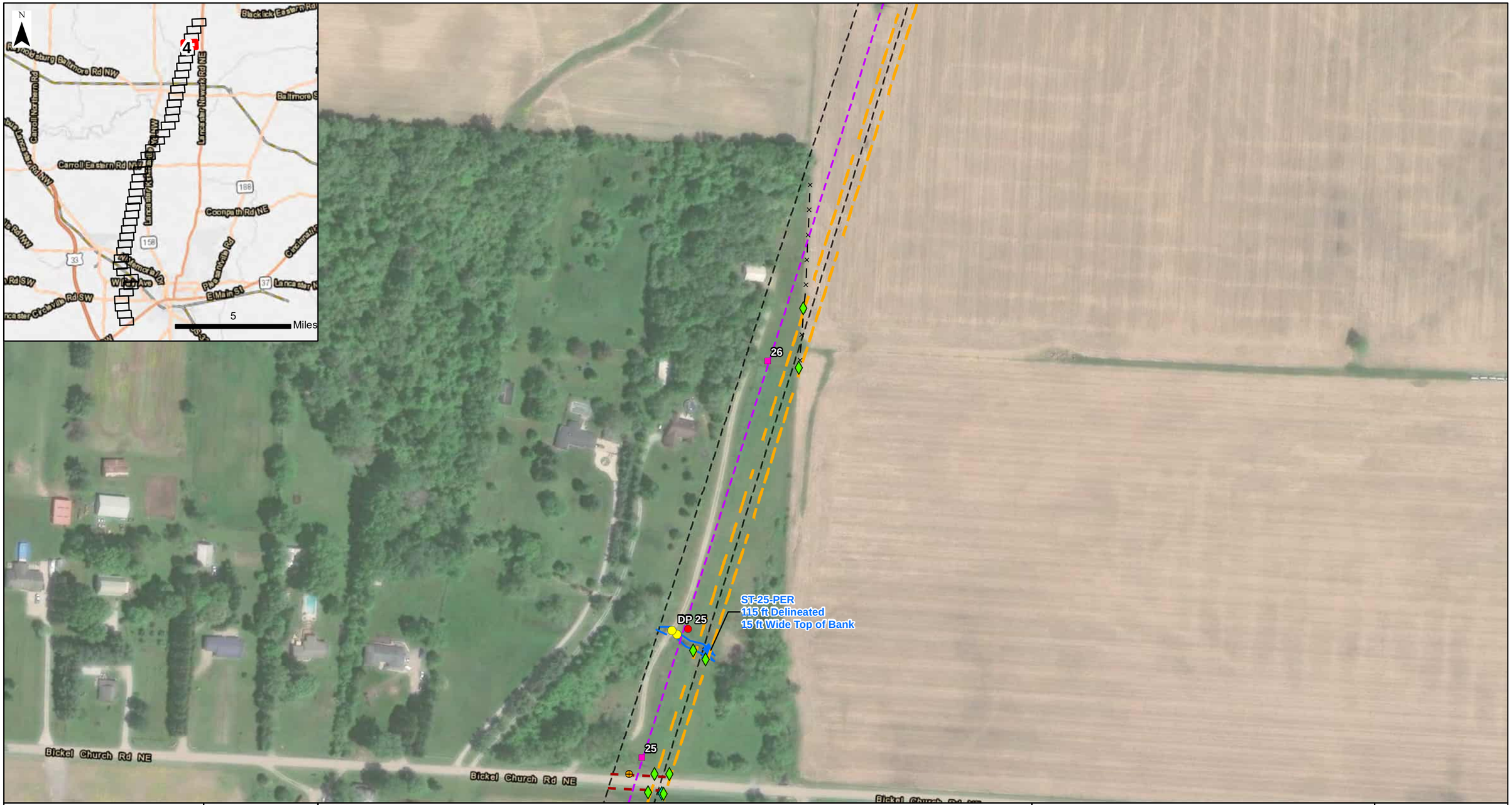

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	LEGEND:				TITLE:	
	CREATED BY: ODS	Existing Structure	Stormwater Inlet	Swale	Stream	**DELINEATION MAP**	0 100 200 Feet
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024	Existing Station	Existing Utility	Roadside Ditch	Pond	SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	SCALE: 1:2,400
	BASE LAYER: Aerial Imagery (2022)	Existing Transmission Line	Potential Obstacle	Guardrail	Wetland PEM		FIGURE: 4
		Proposed Transmission Line	Existing Culvert	Existing Fence			
		Environmental Study Area	Data Point	Gas Line			
		Distribution Pole	Topography	Railroad			

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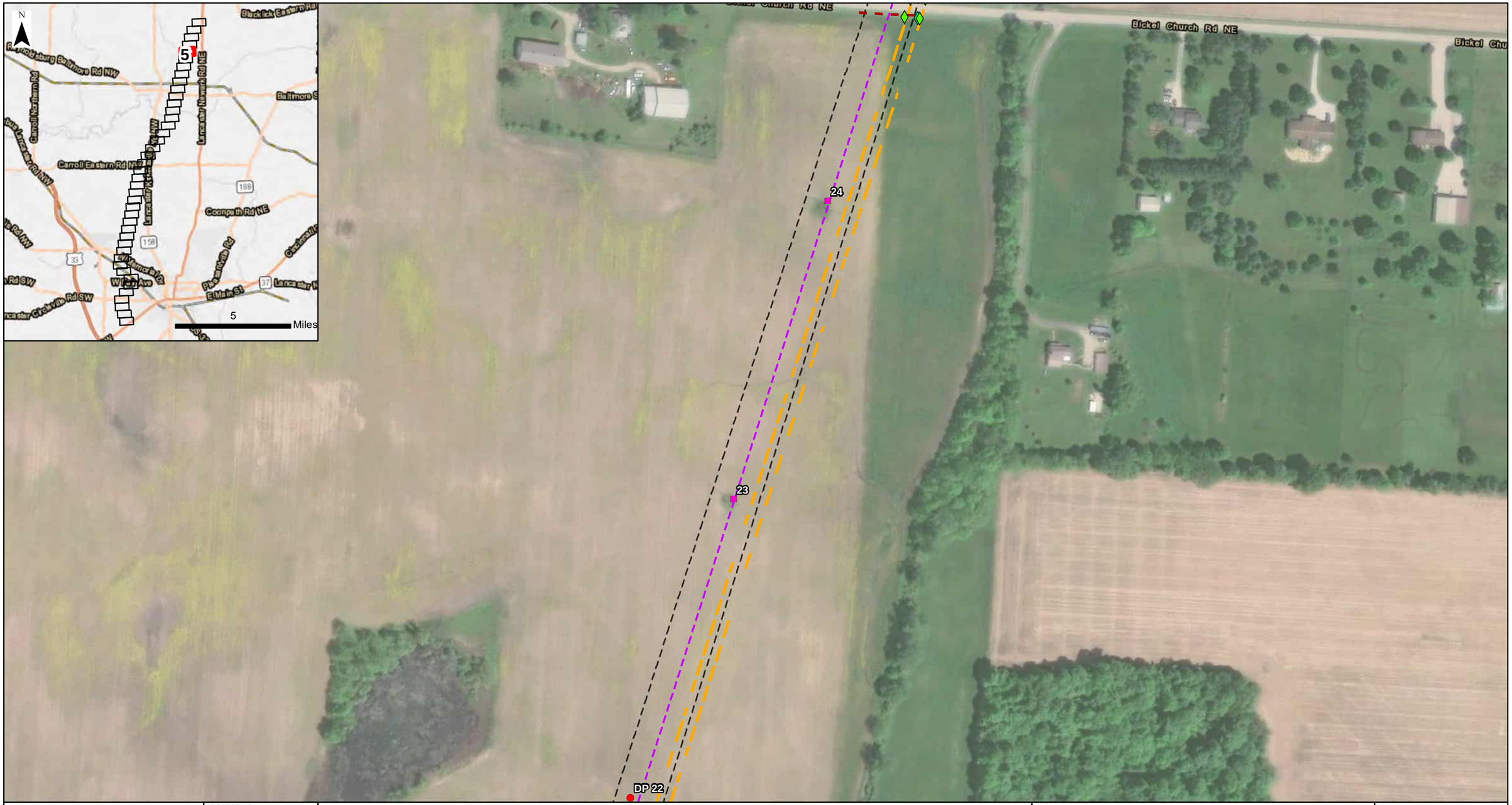

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY	8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	LEGEND:		TITLE: **DELINEATION MAP**
V3	619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	CREATED BY: ODS	Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole	Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography	Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad	Stream Pond Wetland PEM
		DATE: 04/28/2024			SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio
		BASE LAYER: Aerial Imagery (2022)			SCALE: 1:2,400
					FIGURE: 4

0 100 200 Feet

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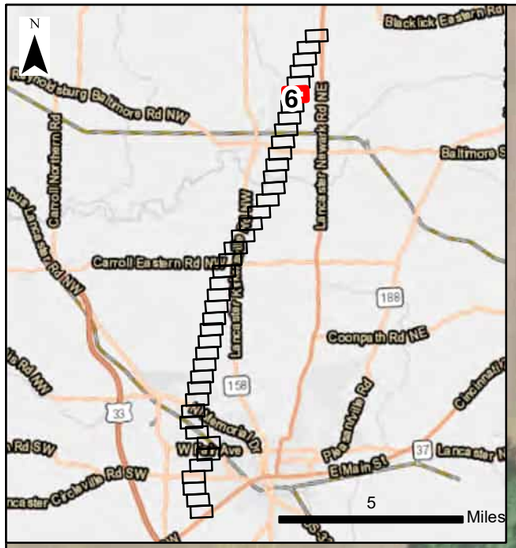

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182 CREATED BY: ODS	LEGEND: Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole	Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography	Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad	Stream Pond Wetland PEM	TITLE: **DELINEATION MAP**	0 100 200 Feet
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)					SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	SCALE: 1:2,400 FIGURE: 4

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DATE: 04/28/2024

BASE LAYER: Aerial Imagery (2022)

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- Proposed Transmission Line
- Environmental Study Area
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- Data Point
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- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore – West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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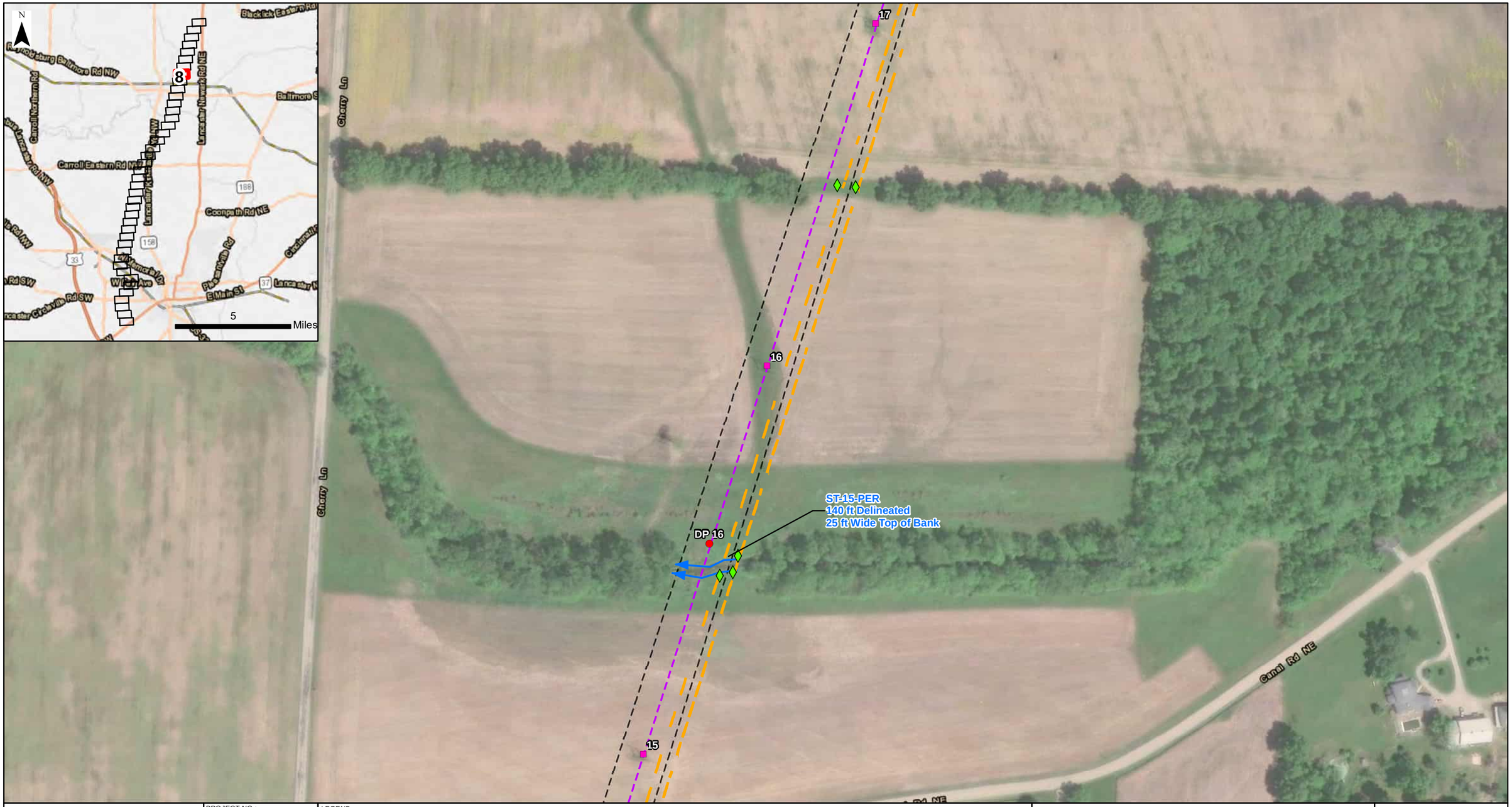

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BOUNDLESS ENERGY
8600 Smiths Mill Road
New Albany, Ohio 43054
www.aep.com

619 N. Pennsylvania Street
Indianapolis, IN 46204
www.v3co.com

PROJECT NO.: 210180.182
CREATED BY: ODS
DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

LEGEND:

- Existing Structure
- Existing Station
- Existing Transmission Line
- Proposed Transmission Line
- Environmental Study Area
- Distribution Pole
- Stormwater Inlet
- Existing Utility
- Potential Obstacle
- Existing Culvert
- Data Point
- Topography
- Swale
- Roadside Ditch
- Guardrail
- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

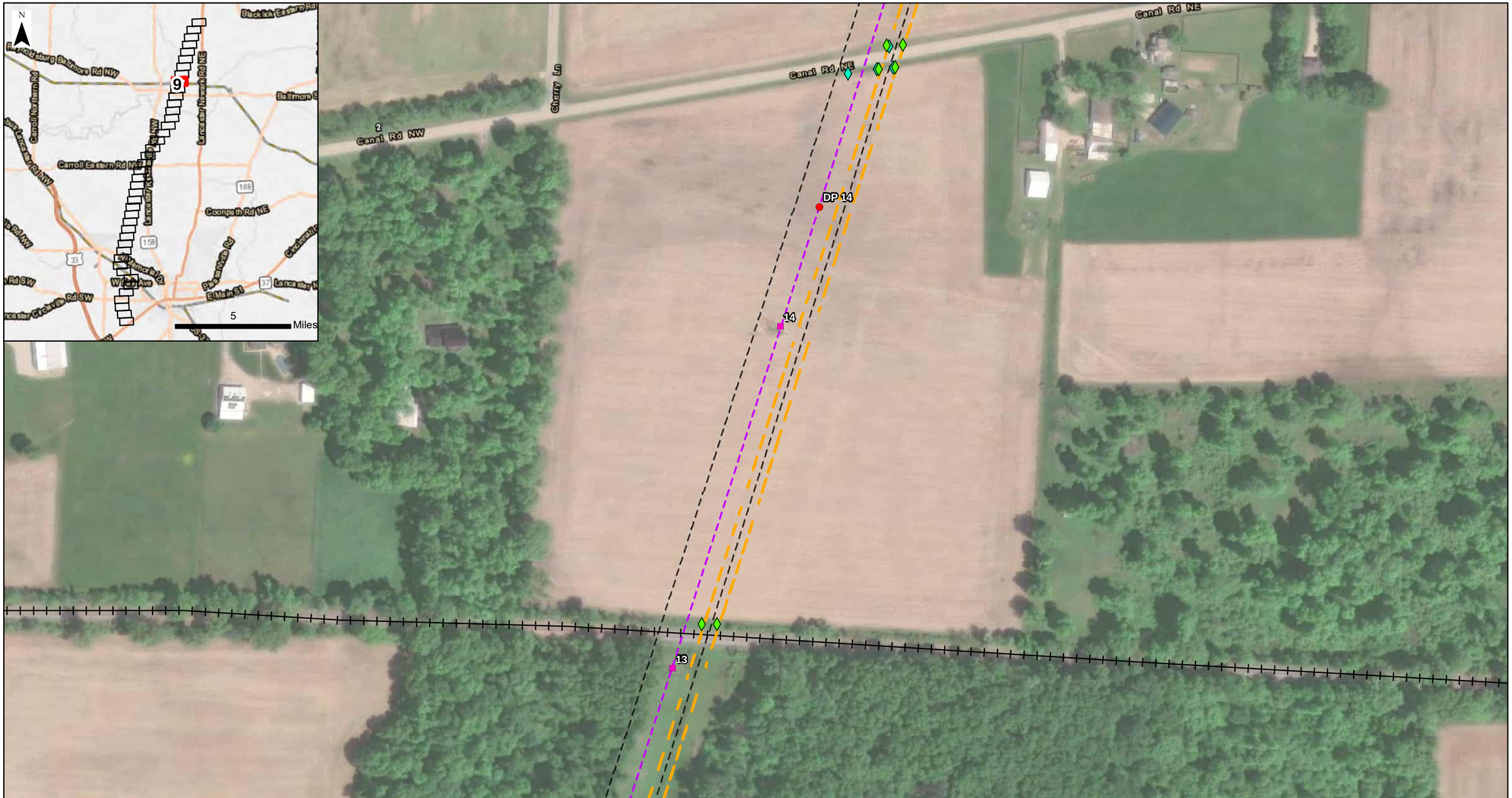
SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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- Existing Fence
- Gas Line
- Railroad
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- Pond
- Wetland PEM

TITLE: **DELINEATION MAP**

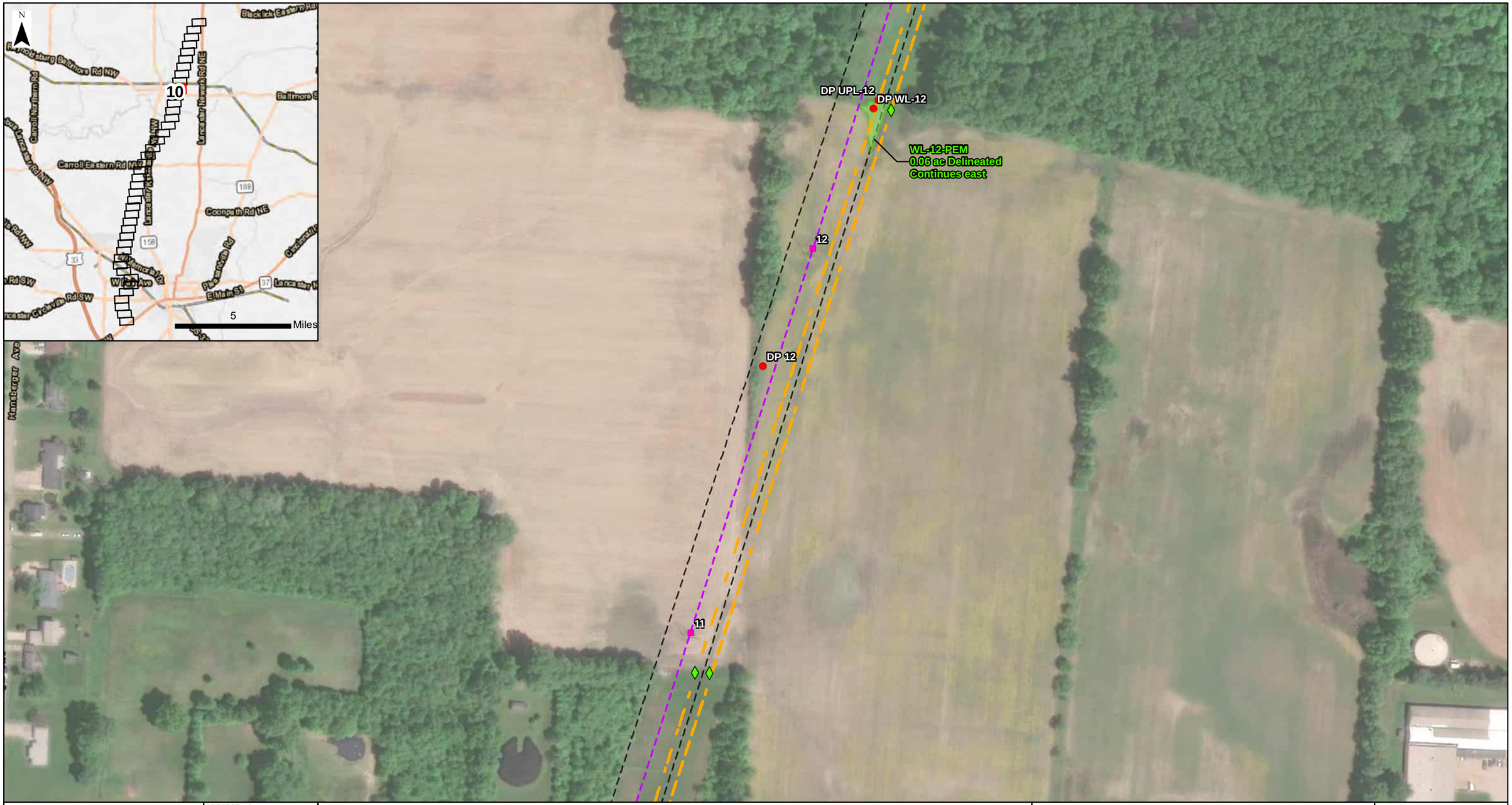
SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild
Fairfield County, Ohio

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

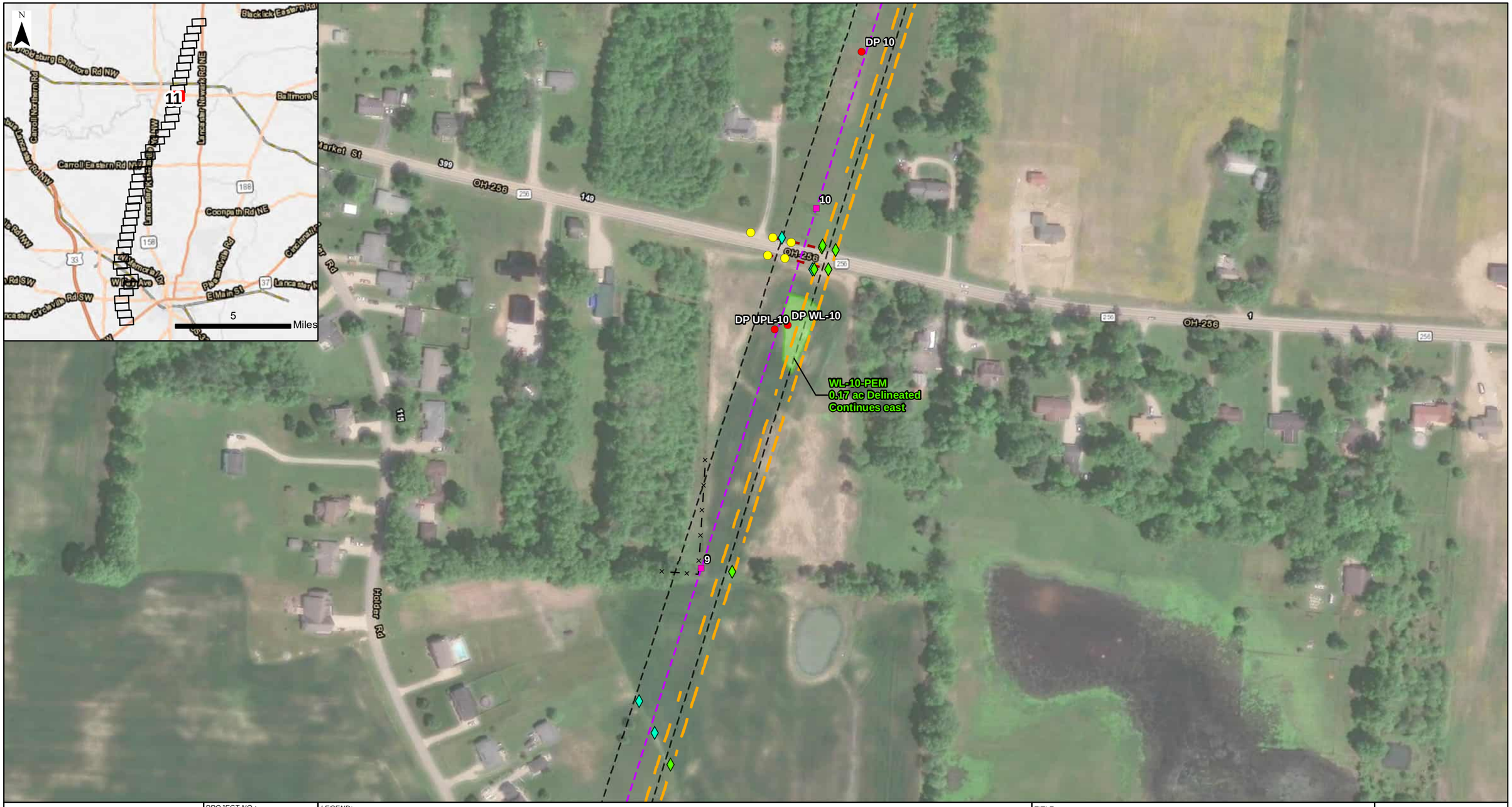
SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

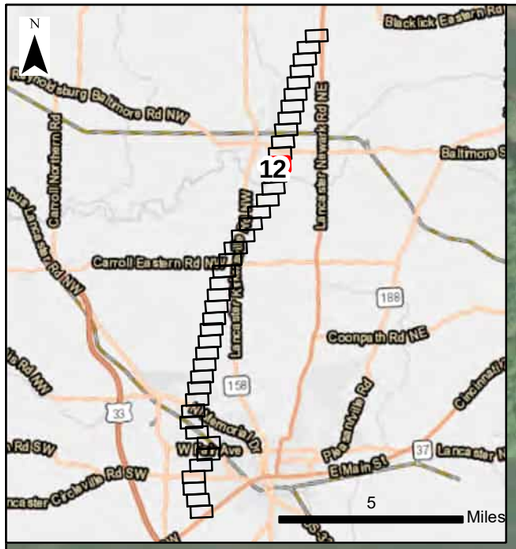
FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	LEGEND:		TITLE: **DELINEATION MAP**
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	CREATED BY: ODS DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)	Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad Stream Pond Wetland PEM	SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	0 100 200 Feet SCALE: 1:2,400 FIGURE: 4 Page 11 of 42

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



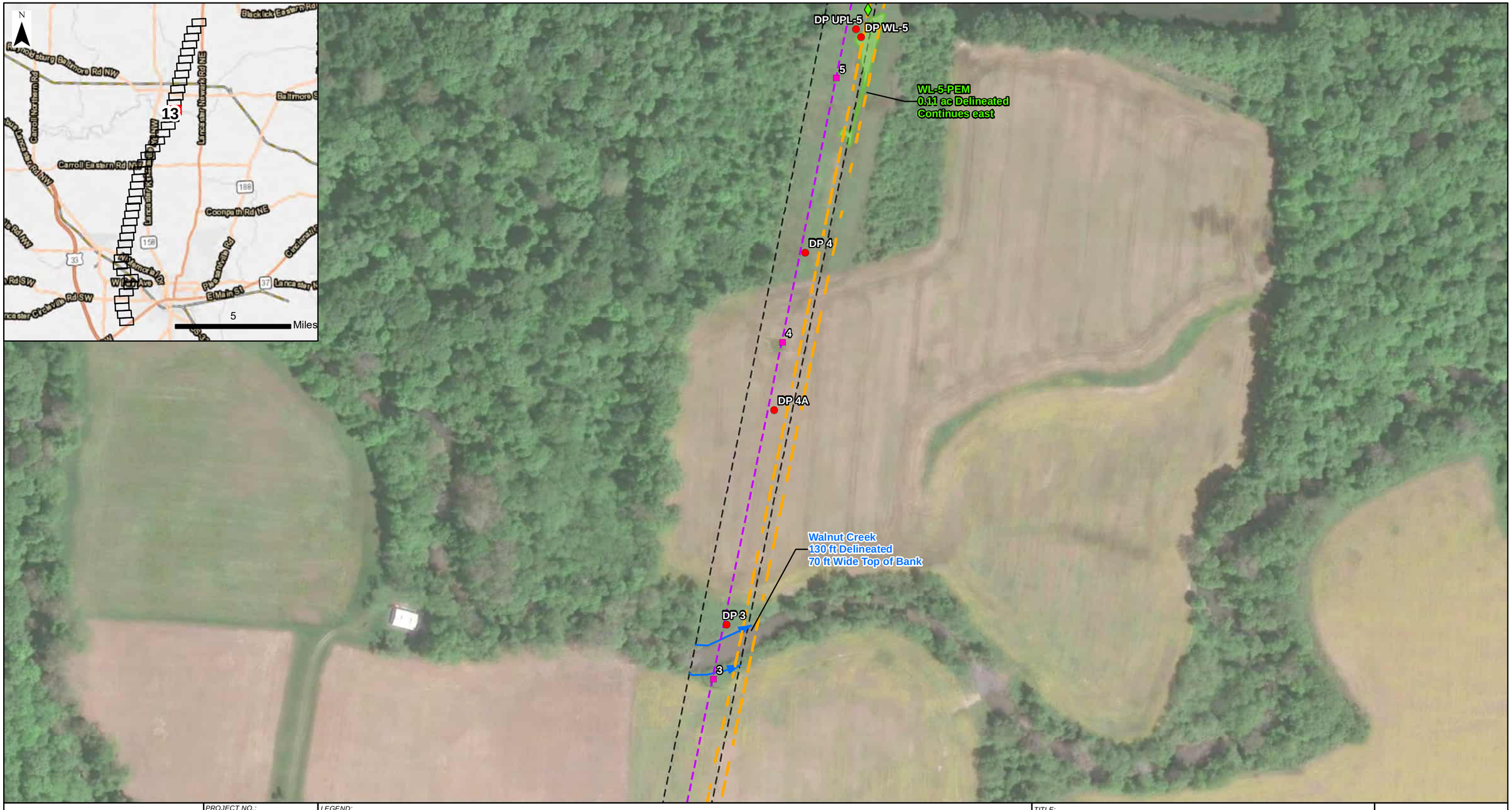
AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182 CREATED BY: ODS	LEGEND: Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad Stream Pond Wetland PEM	TITLE: **DELINEATION MAP**
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)		SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

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- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:
DELINEATION MAP

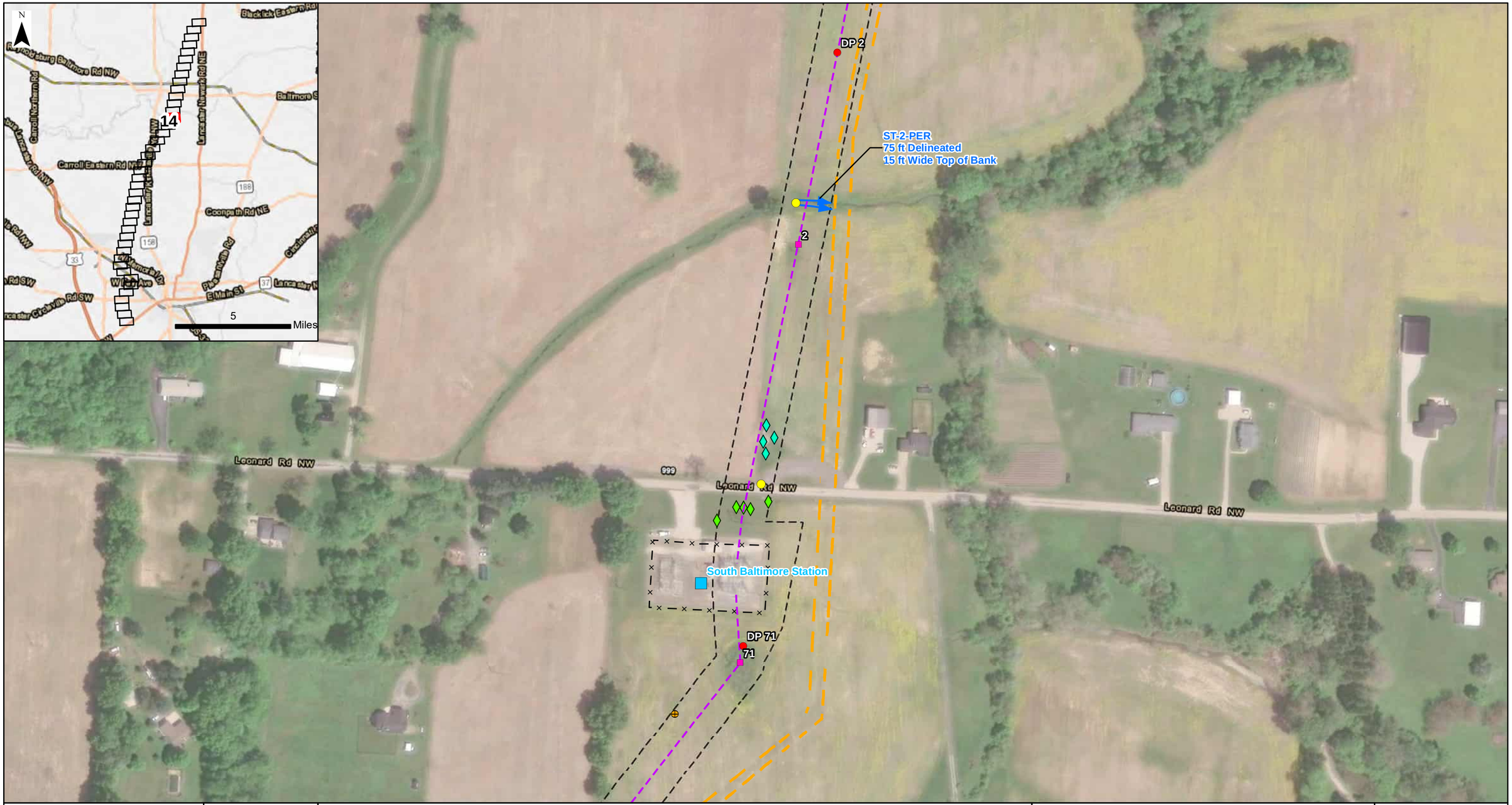
SITE:
West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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TITLE:

DELINEATION MAP

0 100 200 Feet

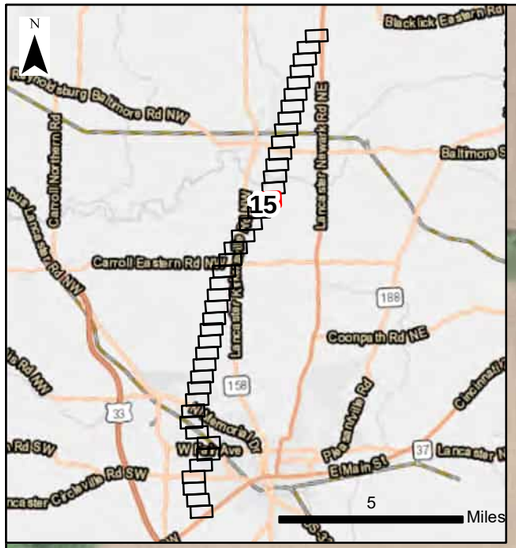
SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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BASE LAYER: Aerial Imagery (2022)

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TITLE: **DELINEATION MAP**

SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild
Fairfield County, Ohio

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

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- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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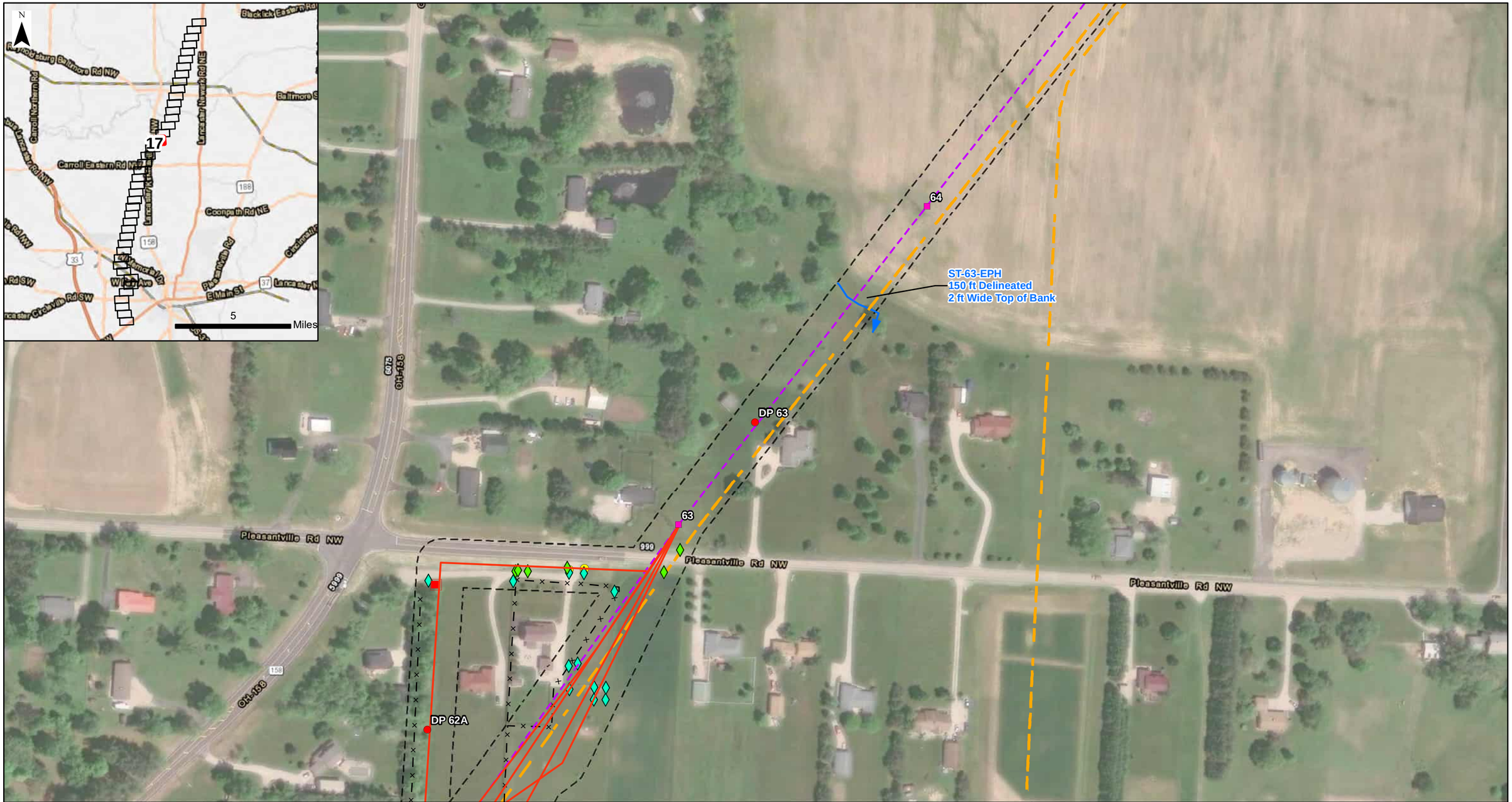

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- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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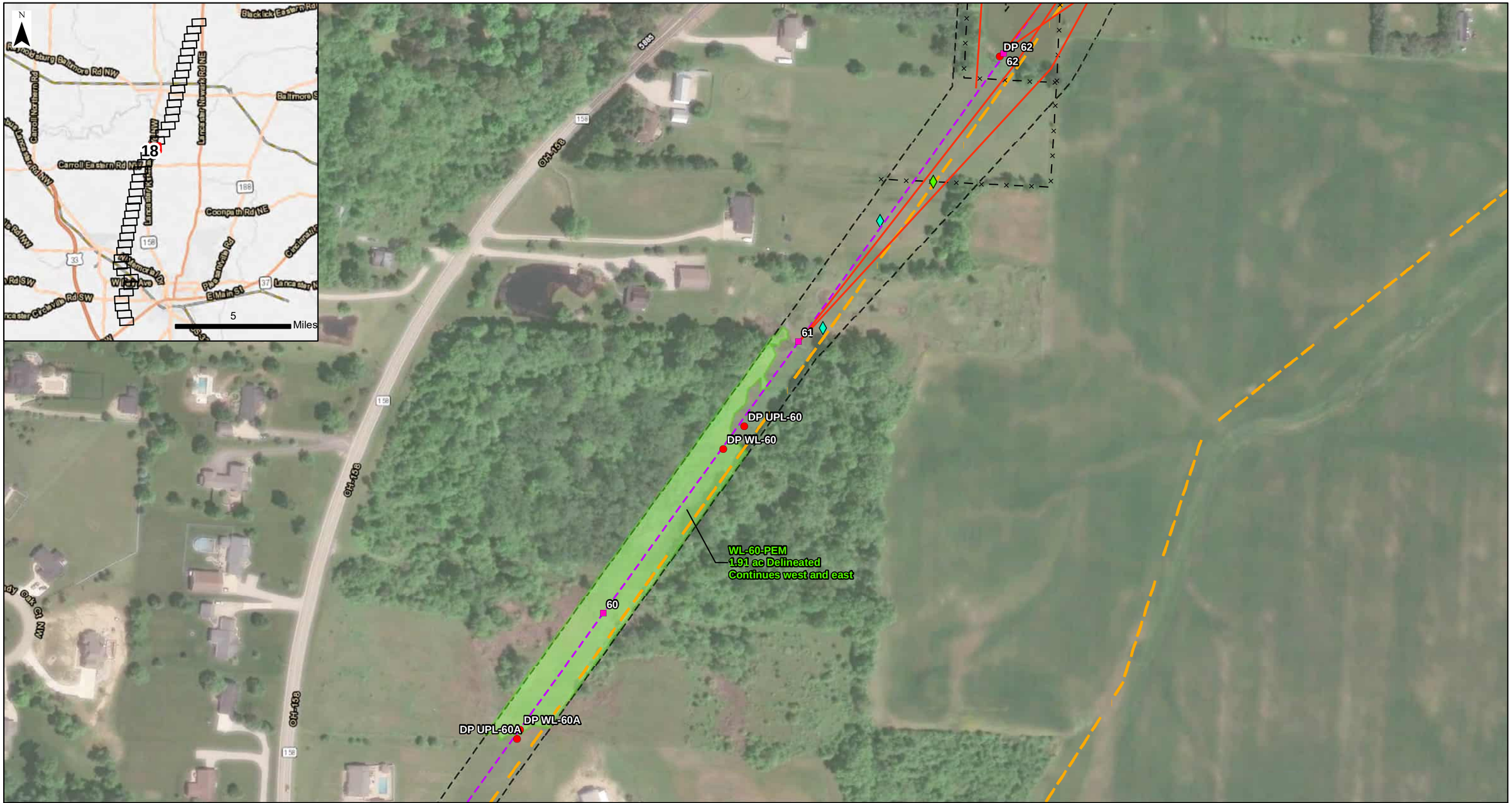

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PROJECT NO.: 210180.182
CREATED BY: ODS
DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

LEGEND:
- Existing Structure
- Existing Station
- Existing Transmission Line
- Proposed Transmission Line
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- Distribution Pole
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- Potential Obstacle
- Existing Culvert
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- Topography
- Swale
- Roadside Ditch
- Guardrail
- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:
DELINEATION MAP

0 100 200 Feet

SITE:
West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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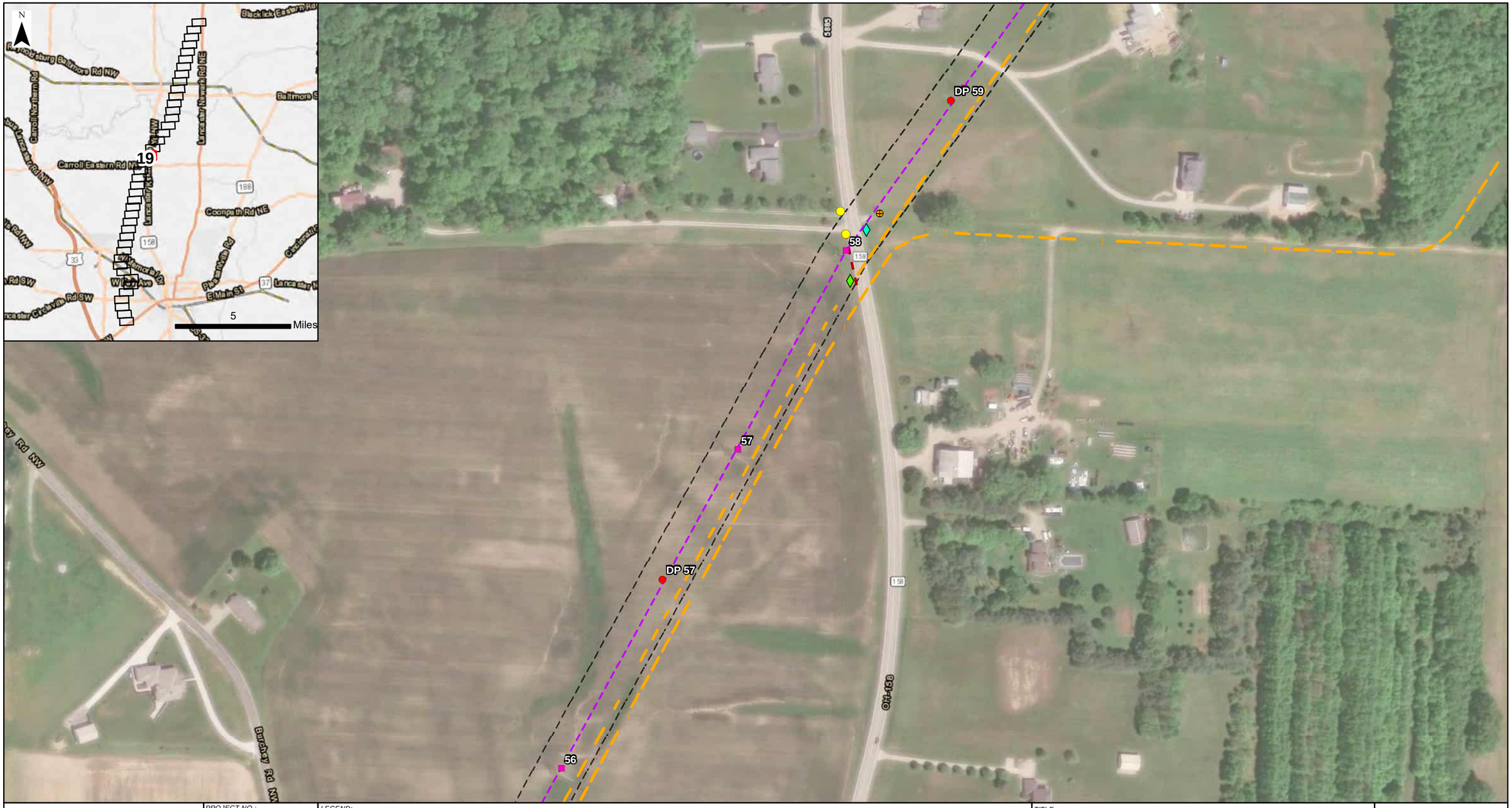

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY™ 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	Existing Structure	Stormwater Inlet	Swale	Stream
	CREATED BY: ODS	Existing Station	Existing Utility	Roadside Ditch	Pond
		Existing Transmission Line	Potential Obstacle	Guardrail	Wetland PEM
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024	Proposed Transmission Line	Existing Culvert	Existing Fence	
	BASE LAYER: Aerial Imagery (2022)	Environmental Study Area	Data Point	Gas Line	
		Distribution Pole	Topography	Railroad	

LEGEND:

TITLE: **DELINEATION MAP**

0 100 200 Feet

SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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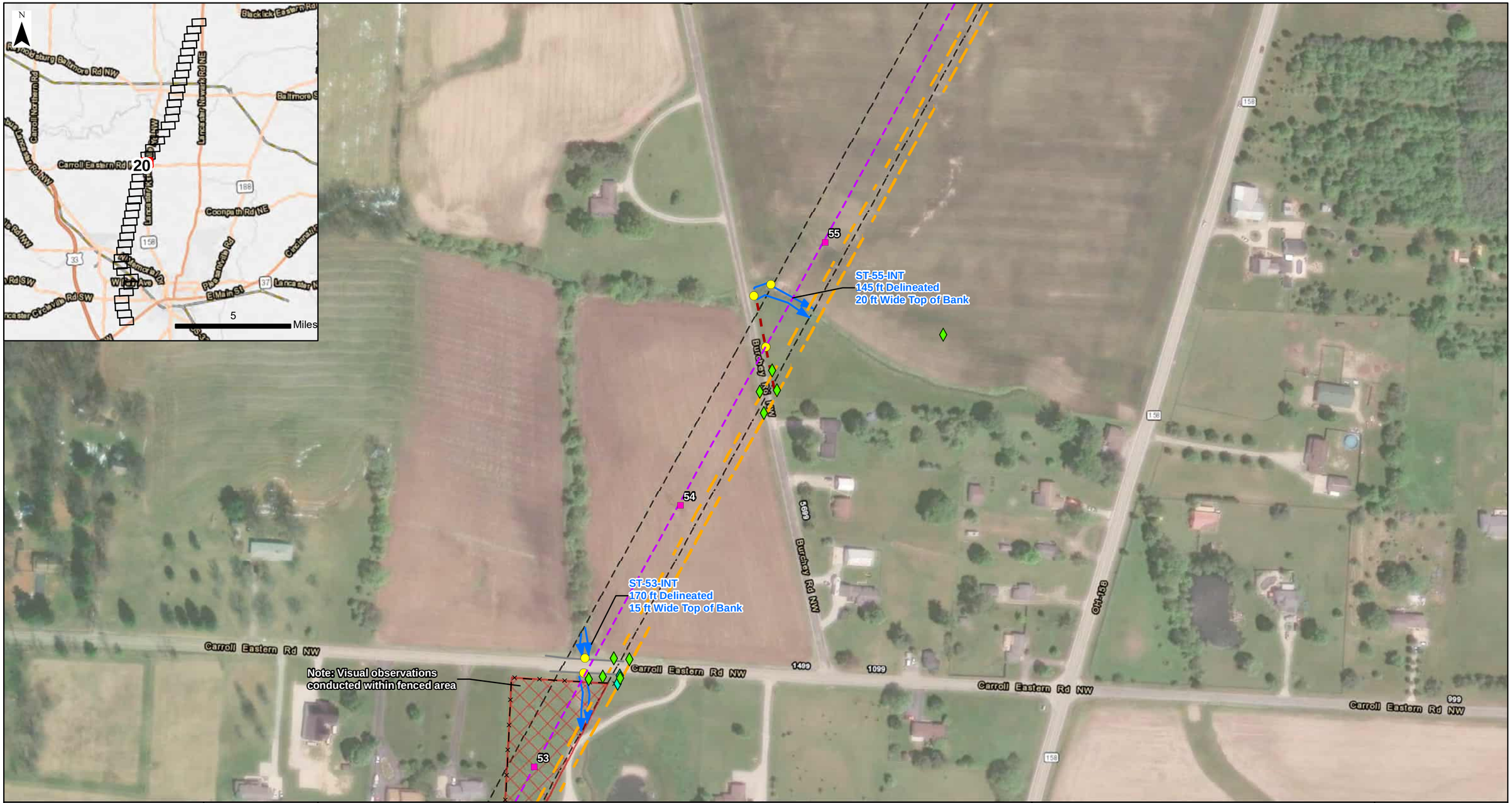

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- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY	8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	LEGEND:		TITLE: **DELINEATION MAP**
V3	619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	CREATED BY: ODS	Existing Structure	Stormwater Inlet	Swale / Stream
		DATE: 04/28/2024	Existing Station	Existing Utility	Roadside Ditch / Pond
		BASE LAYER: Aerial Imagery (2022)	Existing Transmission Line	Potential Obstacle	Guardrail / Wetland PEM
			Proposed Transmission Line	Existing Culvert	Existing Fence
			Environmental Study Area	Data Point	Gas Line
			Distribution Pole	Topography	Railroad

0 100 200 Feet

SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd

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DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

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TITLE:
DELINEATION MAP

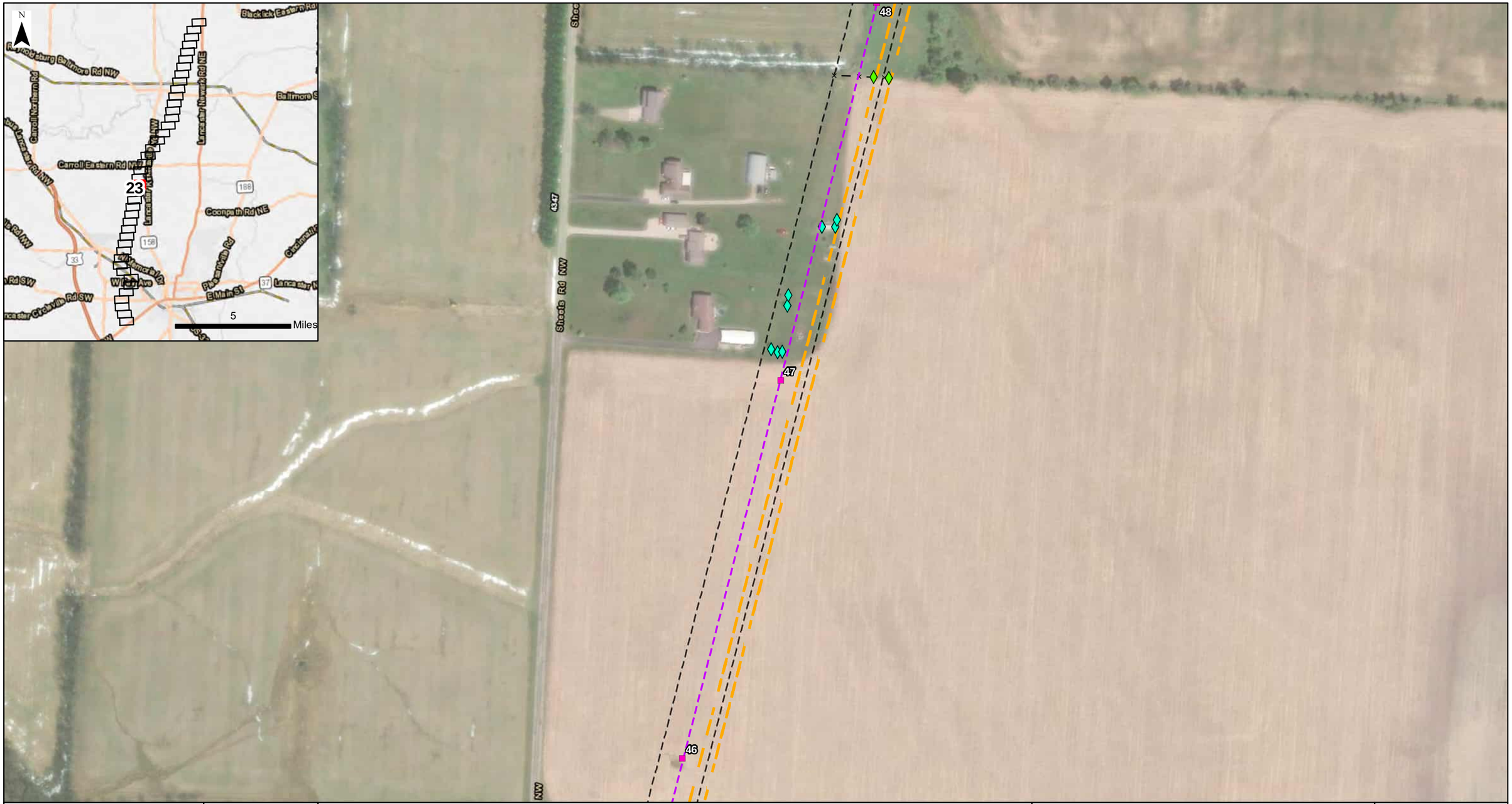
0 100 200 Feet

SITE:
West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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DELINEATION MAP

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West Lancaster – South Baltimore
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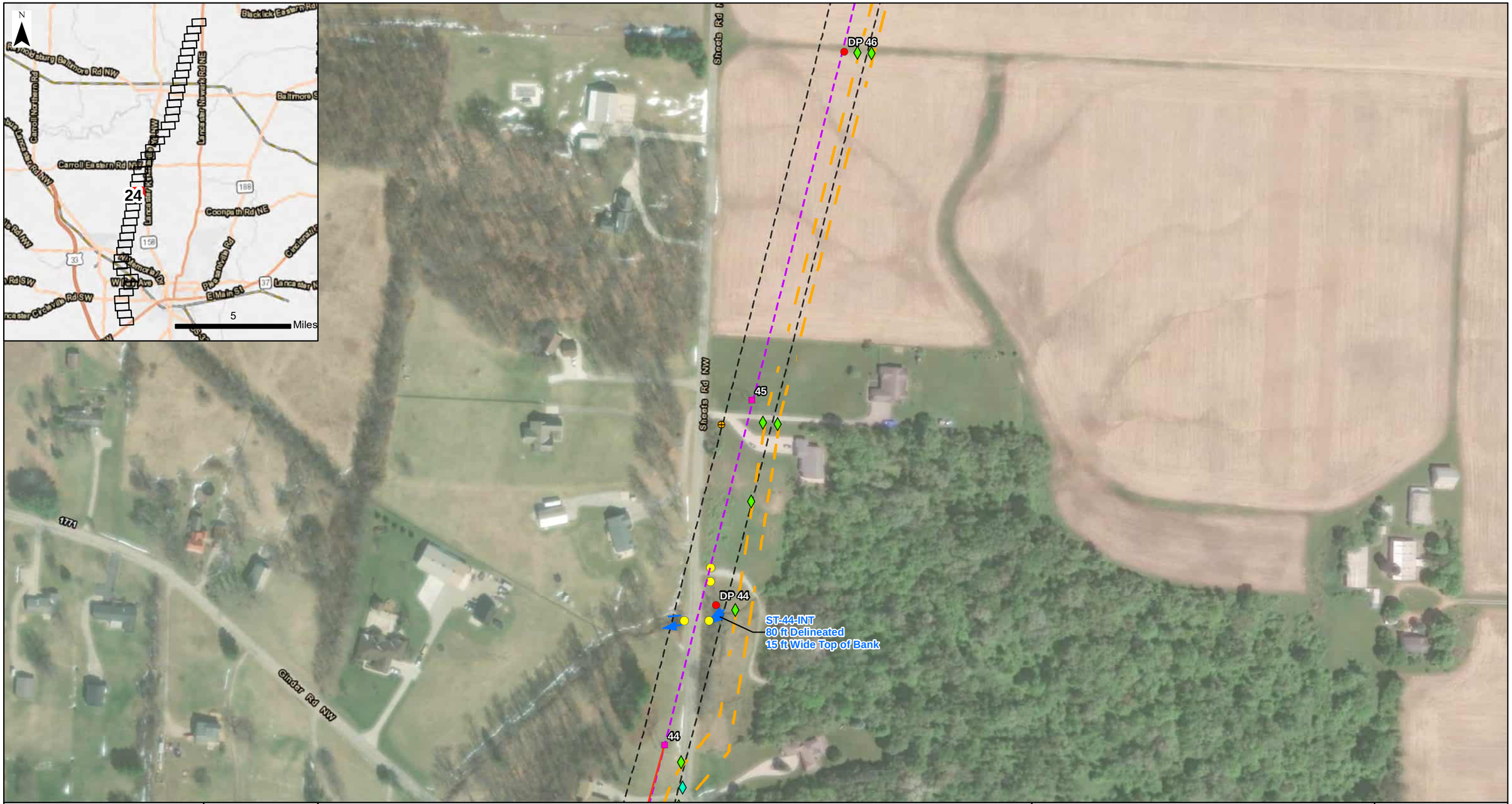
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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DELINEATION MAP

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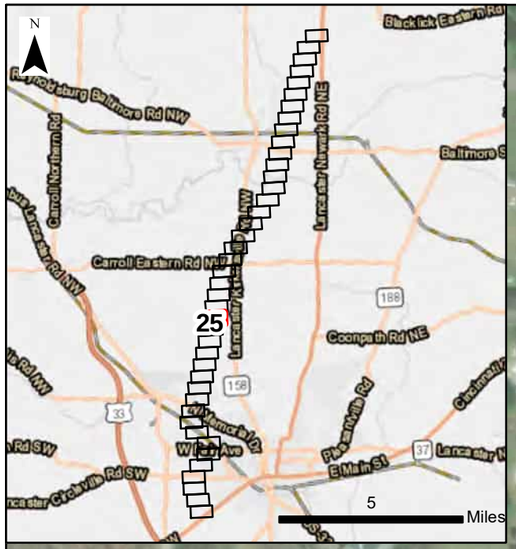
FIGURE: 4

J:\2021\210180\210180_182_WLancasterSBaltimore\NR\Mxds\FIG4delin210180182.mxd



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0 100 200 Feet

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Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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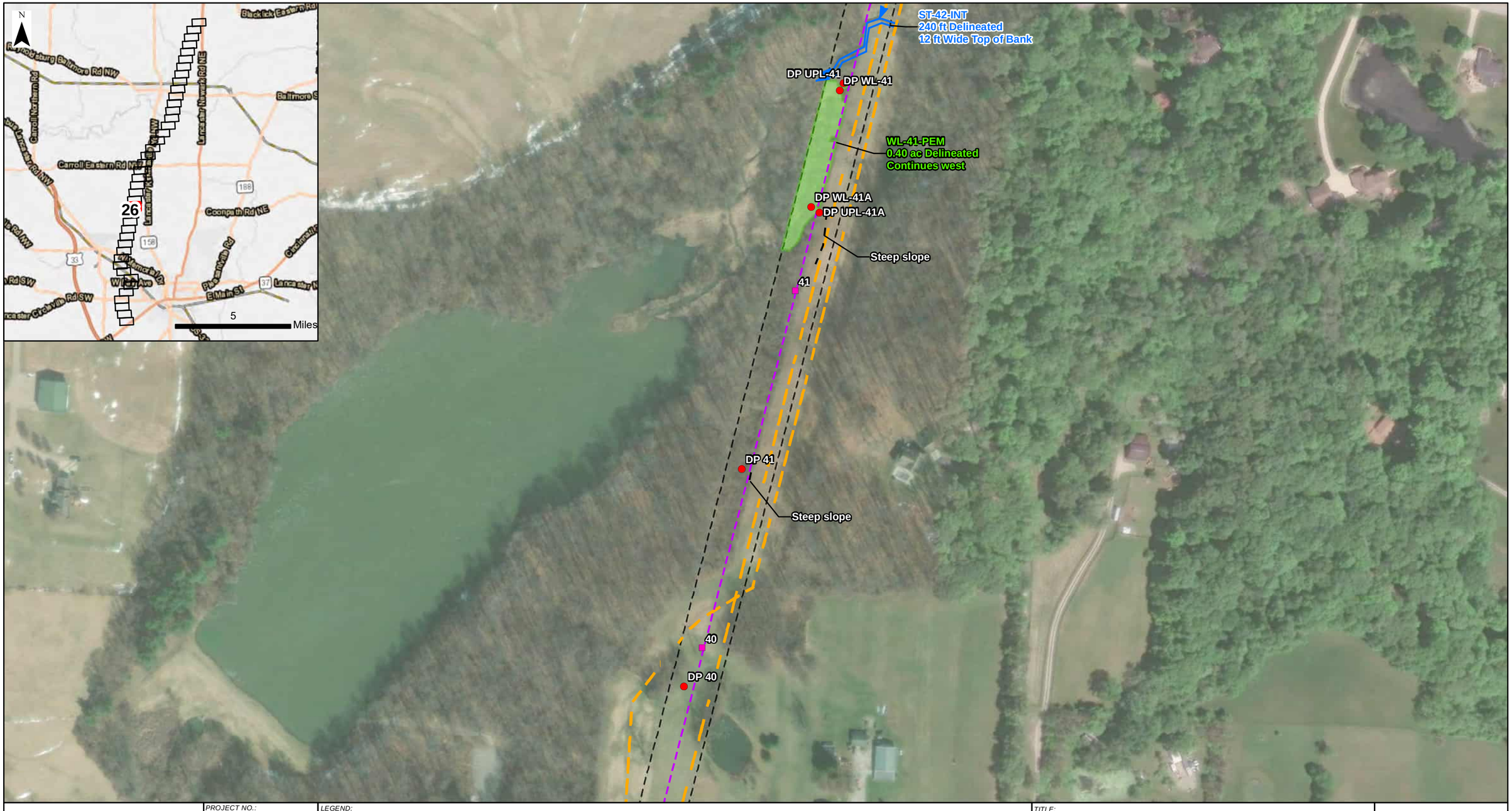

AMERICAN ELECTRIC POWER
BOUNDLESS ENERGY

8600 Smiths Mill Road
New Albany, Ohio 43054
www.aep.com

619 N. Pennsylvania Street
Indianapolis, IN 46204
www.v3co.com

PROJECT NO.: 210180.182
CREATED BY: ODS
DATE: 04/28/2024
BASE LAYER: Aerial Imagery (2022)

LEGEND:

- Existing Structure
- Existing Station
- Existing Transmission Line
- Proposed Transmission Line
- Environmental Study Area
- Distribution Pole
- Stormwater Inlet
- Existing Utility
- Potential Obstacle
- Existing Culvert
- Data Point
- Topography
- Swale
- Roadside Ditch
- Guardrail
- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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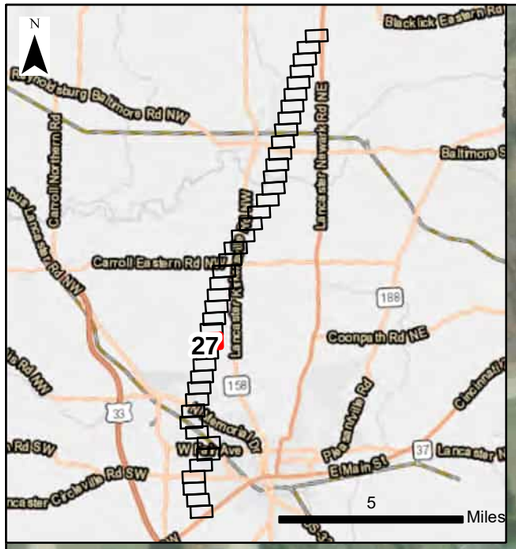

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- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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FIGURE: 4

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TITLE:
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0 100 200 Feet

SITE:
West Lancaster – South Baltimore
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Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182 CREATED BY: ODS	LEGEND:	TITLE: **DELINEATION MAP**
619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)		SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio

LEGEND:
- Existing Structure
- Existing Station
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- Roadside Ditch
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- Existing Fence
- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

Page 30 of 42

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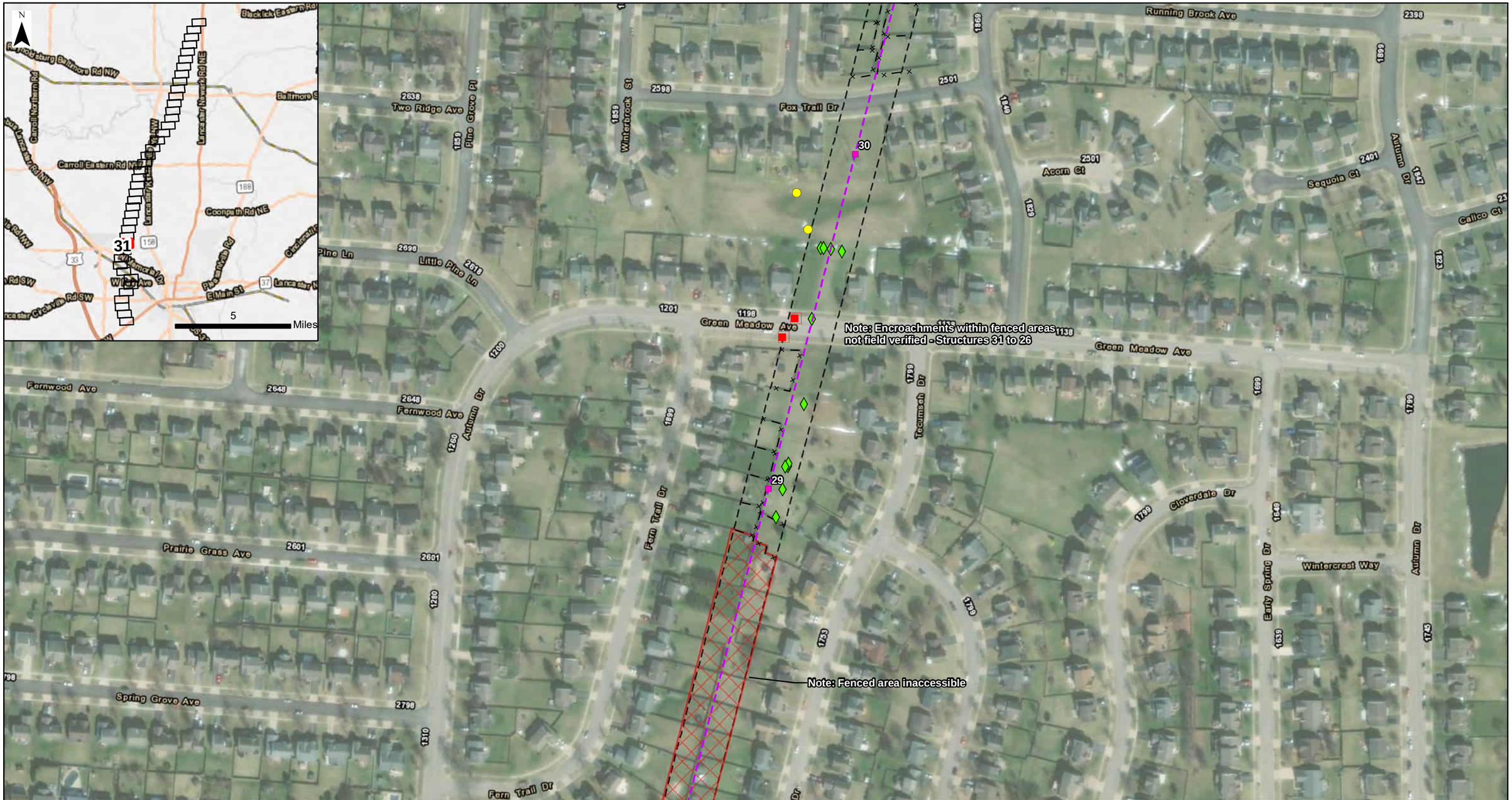

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TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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AMERICAN ELECTRIC POWER 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182 CREATED BY: ODS	LEGEND: Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole	Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography	Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad	Stream Pond Wetland PEM	TITLE: **DELINEATION MAP**
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)					SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio

0 100 200 Feet

SCALE: 1:2,400

FIGURE: 4

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V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)					SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	SCALE: 1:2,400 FIGURE: 4 **Page 33 of 42**

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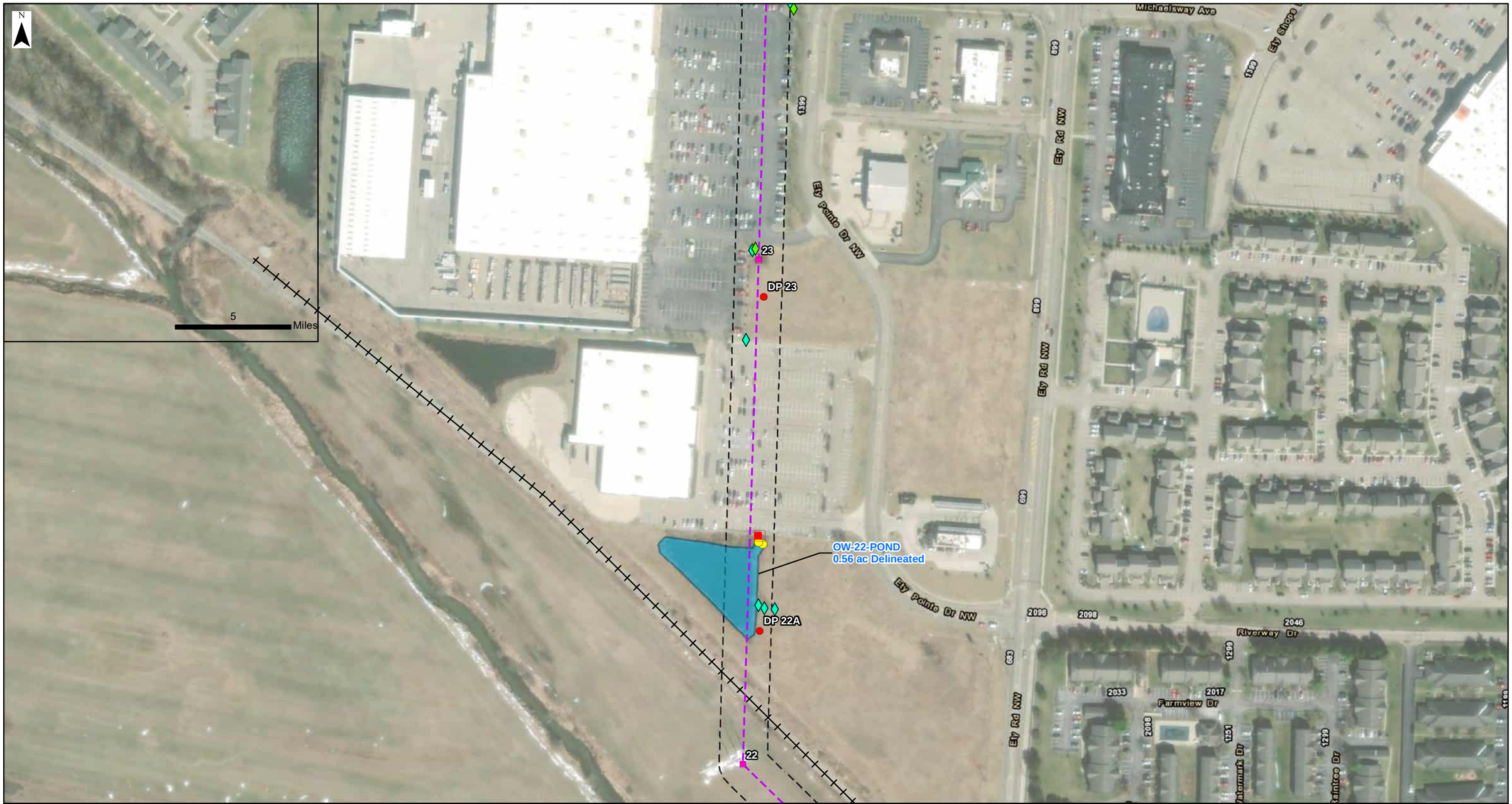

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182	LEGEND:		TITLE: **DELINEATION MAP**
	CREATED BY: ODS	Existing Structure	Stormwater Inlet	Swale	Stream
		Existing Station	Existing Utility	Roadside Ditch	Pond
		Existing Transmission Line	Potential Obstacle	Guardrail	Wetland PEM
		Proposed Transmission Line	Existing Culvert	Existing Fence	
		Environmental Study Area	Data Point	Gas Line	
		Distribution Pole	Topography	Railroad	
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024				SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio
	BASE LAYER: Aerial Imagery (2022)				SCALE: 1:2,400
					FIGURE: 4

0 100 200 Feet

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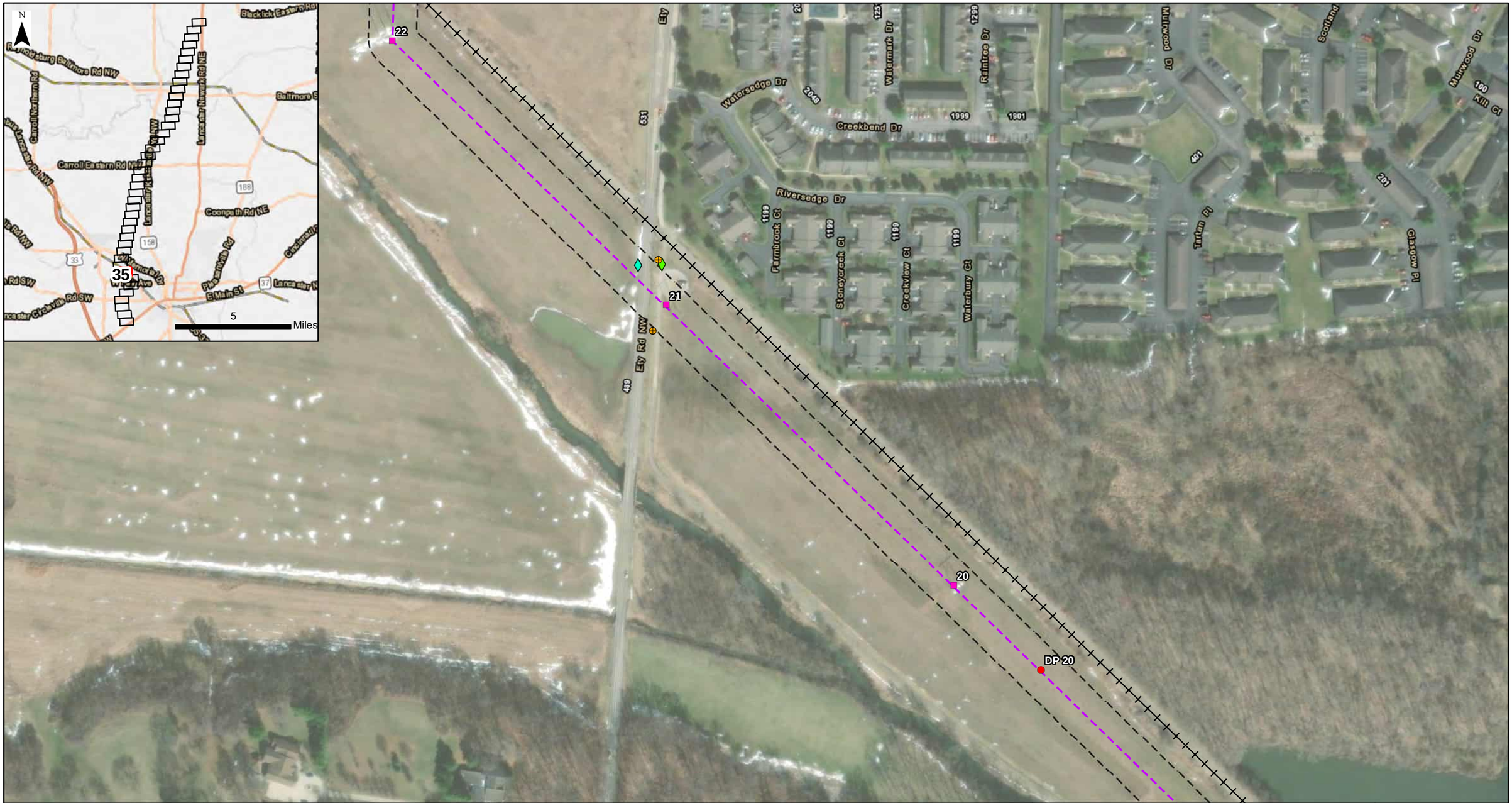

AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182 CREATED BY: ODS	LEGEND: Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole	Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography	Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad	Stream Pond Wetland PEM	TITLE: **DELINEATION MAP**	0 100 200 Feet
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)					SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	SCALE: 1:2,400 FIGURE: 4 **Page 35 of 42**

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AMERICAN ELECTRIC POWER BOUNDLESS ENERGY 8600 Smiths Mill Road New Albany, Ohio 43054 www.aep.com	PROJECT NO.: 210180.182 CREATED BY: ODS	LEGEND: Existing Structure Existing Station Existing Transmission Line Proposed Transmission Line Environmental Study Area Distribution Pole	Stormwater Inlet Existing Utility Potential Obstacle Existing Culvert Data Point Topography	Swale Roadside Ditch Guardrail Existing Fence Gas Line Railroad	Stream Pond Wetland PEM	TITLE: **DELINEATION MAP**	0 100 200 Feet
V3 619 N. Pennsylvania Street Indianapolis, IN 46204 www.v3co.com	DATE: 04/28/2024 BASE LAYER: Aerial Imagery (2022)					SITE: West Lancaster – South Baltimore – West Millersport 138kV Rebuild Fairfield County, Ohio	SCALE: 1:2,400 FIGURE: 4

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- Gas Line
- Railroad
- Stream
- Pond
- Wetland PEM

TITLE:

DELINEATION MAP

0 100 200 Feet

SITE:

West Lancaster – South Baltimore
– West Millersport 138kV Rebuild
Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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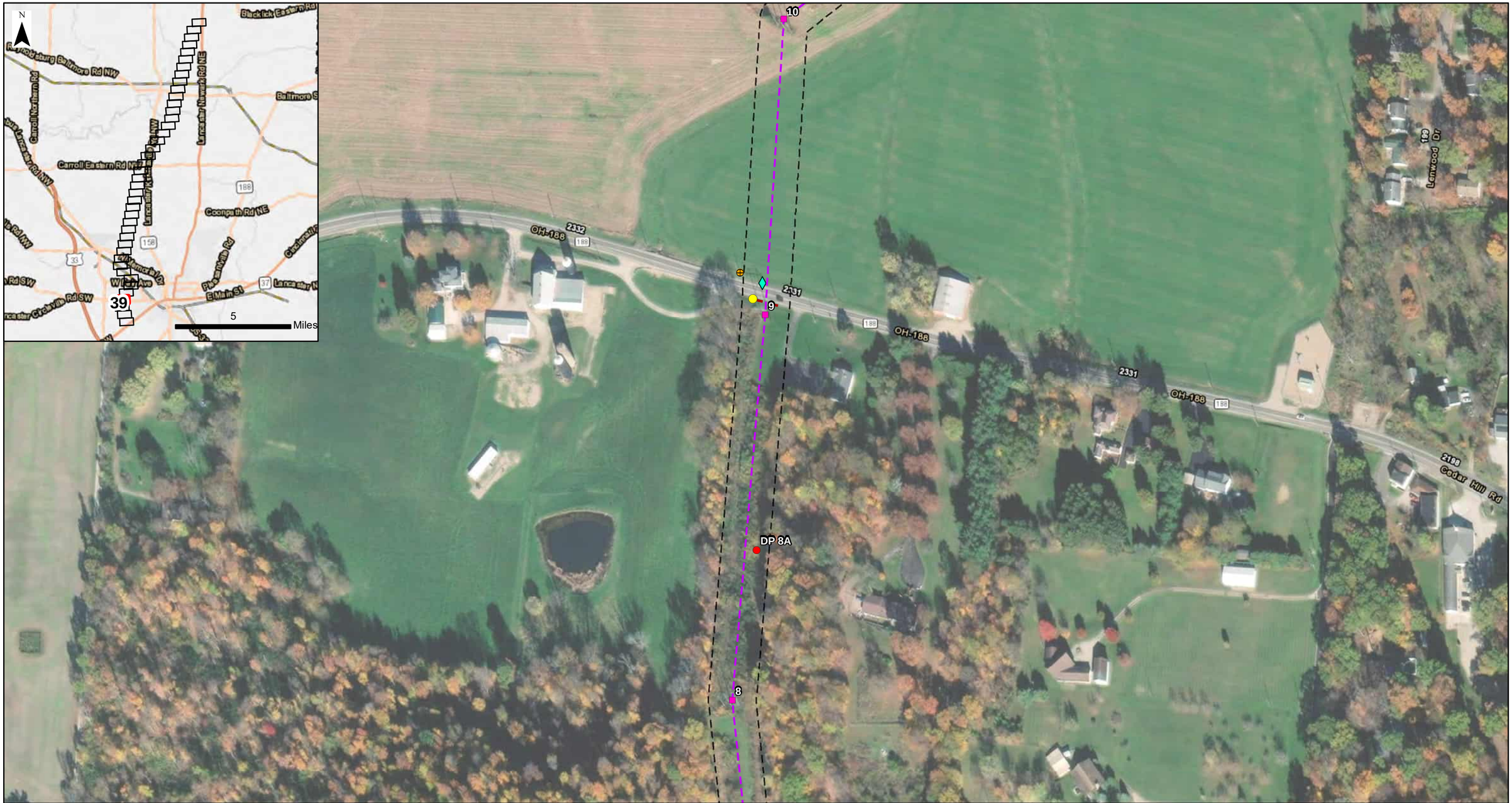

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DELINEATION MAP

0 100 200 Feet

SITE:

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Fairfield County, Ohio

SCALE: 1:2,400

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SITE:

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Fairfield County, Ohio

SCALE: 1:2,400

FIGURE: 4

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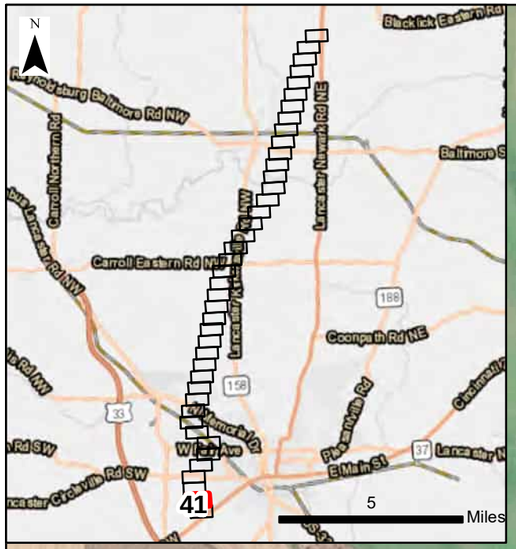

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SCALE: 1:2,400

FIGURE: 4

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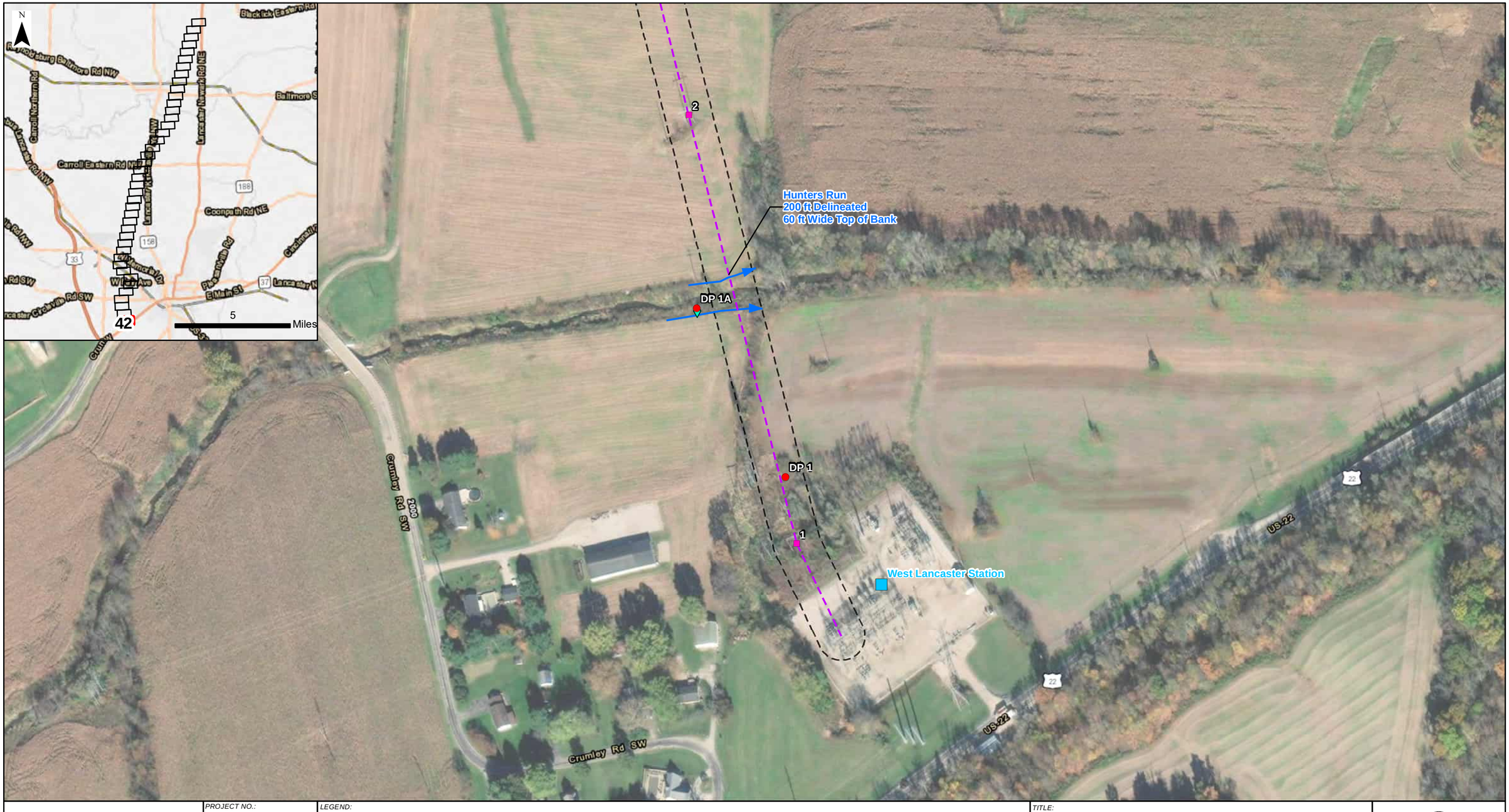

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SCALE: 1:2,400

FIGURE: 4

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Appendix A

ETR Species Correspondence Letters

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To: 03/18/2024 20:18:46 UTC
Project Code: 2024-0064491
Project Name: West Lancaster – South Baltimore – West Millersport 138kV Rebuild

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

PROJECT SUMMARY

Project Code: 2024-0064491

Project Name: West Lancaster – South Baltimore – West Millersport 138kV Rebuild

Project Type: Transmission Line - Maintenance/Modification - Above Ground

Project Description: AEP proposes to rebuild the West Lancaster – South Baltimore – West Millersport 138kV Transmission Line located in Liberty, Walnut, Greenfield, and Pleasant Township, Fairfield County Ohio. The project involves rebuilding approximately 14.4 miles of the West Lancaster – South Baltimore – West Millersport 138 kV Transmission Lines.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.7632933,-82.63181485815679,14z

Counties: Fairfield County, Ohio

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

REPTILES

NAME	STATUS
Eastern Massasauga (=rattlesnake) *Sistrurus catenatus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2202	Threatened

CLAMS

NAME	STATUS
Round Hickorynut *Obovaria subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9879	Threatened
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: V3 Companies
Name: Olivia Speckman
Address: 619 N Pennsylvania Street
City: Indianapolis
State: IN
Zip: 46204
Email ospeckman@v3co.com
Phone: 3174230690

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

April 17, 2024

Project Code: 2024-0064491

Dear Olivia Speckman:

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 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: The proposed project is in the vicinity of one or more confirmed records of Indiana bats and/or northern long-eared bats. 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. Please note that, because Indiana bat and/or northern long-eared bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for these species.

Federally Proposed Species: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (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, Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.ohio.gov.

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,

Erin Knoll
Field Office Supervisor

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

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, Ohio 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

April 26, 2024

Olivia Speckman
V3 Companies
619 North Pennsylvania Street
Indianapolis, Indiana 46204

Re: 24-0500_West Lancaster - South Baltimore - West Millersport 138kV Rebuild

Project: The proposed project involves rebuilding approximately 14.4 miles of the West Lancaster – South Baltimore – West Millersport 138 kV Transmission Lines.

Location: The proposed project is located in Liberty, Walnut, Greenfield, and Pleasant townships, Fairfield County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following data within one mile of the project area:

Cerulean Warbler (*Setophaga cerulea*), SC
Kidneyshell (*Ptychobranchus fasciolaris*), SC
Great Blue Heron Rookery
Appalachian oak forest plant community
Oak-maple forest plant community

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. Records for high quality plant communities indicate the presence of sites that are in our inventory of the best remaining examples of Ohio's pre-settlement ecosystems.

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Features searched include locations of rare and endangered plants and animals determined to be of value to the conservation of their species, high quality plant communities, animal breeding assemblages, and outstanding geological features.

The species and features listed above are not recorded within the boundaries of the specified project area. However, 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 project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. Because presence of state endangered bat species has been established in the 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 endangered 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. However, these species are also dependent on the forest structure surrounding roost trees. 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 $\geq$ 20 if possible.

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.

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2022), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional

malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the northern brook lamprey (*Ichthyomyzon fossor*), a state endangered fish, and the popeye shiner (*Notropis ariommus*), a state endangered fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the northern harrier (*Circus hudsonius*), 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.

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

Appendix B

SITE Photographs

Photo: 1 WL-12-PEM **Direction of View:** North **Date:** 27 March 2024	
Photo: 2 WL-12-PEM **Direction of View:** East **Date:** 27 March 2024	
Photo: 3 WL-12-PEM **Direction of View:** South **Date:** 27 March 2024	

Photo: 4 WL-12-PEM **Direction of View:** West **Date:** 27 March 2024	
Photo: 5 DP UPL-12 **Direction of View:** North **Date:** 27 March 2024	
Photo: 6 DP UPL-12 **Direction of View:** West **Date:** 27 March 2024	

Photo: 7 WL-10-PEM **Direction of View:** North **Date:** 27 March 2024	
Photo: 8 WL-10-PEM **Direction of View:** East **Date:** 27 March 2024	
Photo: 9 WL-10-PEM **Direction of View:** South **Date:** 27 March 2024	

Photo: 10 WL-10-PEM **Direction of View:** West **Date:** 27 March 2024	
Photo: 11 DP UPL-10 **Direction of View:** North **Date:** 27 March 2024	
Photo: 12 DP UPL-10 **Direction of View:** South **Date:** 27 March 2024	

Photo: 13 WL-5-PEM **Direction of View:** Northeast **Date:** 27 March 2024	
Photo: 14 WL-5-PEM **Direction of View:** East **Date:** 27 March 2024	
Photo: 18 WL-5-PEM **Direction of View:** Southwest **Date:** 27 March 2024	

Photo: 16 WL-5-PEM **Direction of View:** West **Date:** 28 March 2024	
Photo: 17 DP UPL-5 **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 18 WL-68-PEM **Direction of View:** North **Date:** 27 March 2024	

Photo: 19 WL-68-PEM **Direction of View:** East **Date:** 27 March 2024	
Photo: 20 WL-68-PEM **Direction of View:** South **Date:** 27 March 2024	
Photo: 21 WL-68-PEM **Direction of View:** West **Date:** 27 March 2024	

Photo: 22 DP UPL-68 **Direction of View:** North **Date:** 27 March 2024	
Photo: 23 DP UPL-68 **Direction of View:** South **Date:** 27 March 2024	
Photo: 24 WL-60-PEM DP WL-60 **Direction of View:** North **Date:** 27 March 2024	

Photo: 25 WL-60-PEM DP WL-60 **Direction of View:** East **Date:** 27 March 2024	
Photo: 26 WL-60-PEM DP WL-60 **Direction of View:** South **Date:** 27 March 2024	
Photo: 27 WL-60-PEM DP WL-60 **Direction of View:** West **Date:** 27 March 2024	

Photo: 28 DP UPL-60 **Direction of View:** North **Date:** 27 March 2024	
Photo: 29 DP UPL-60 **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 30 WL-60-PEM DP WL-60-A **Direction of View:** North **Date:** 27 March 2024	

Photo: 31 WL-60-PEM DP WL-60-A **Direction of View:** East **Date:** 27 March 2024	
Photo: 32 WL-60-PEM DP WL-60-A **Direction of View:** South **Date:** 27 March 2024	
Photo: 33 WL-60-PEM DP WL-60-A **Direction of View:** West **Date:** 27 March 2024	

Photo: 34 DP UPL-60-A **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 35 WL-50-PEM **Direction of View:** North **Date:** 27 March 2024	
Photo: 36 WL-50-PEM **Direction of View:** East **Date:** 27 March 2024	

Photo: 37 WL-50-PEM **Direction of View:** South **Date:** 27 March 2024	
Photo: 38 WL-50-PEM **Direction of View:** West **Date:** 27 March 2024	
Photo: 39 DP UPL-50 **Direction of View:** East **Date:** 27 March 2024	

Photo: 40 DP UPL-50 **Direction of View:** West **Date:** 27 March 2024	
Photo: 41 WL-41-PEM **Direction of View:** North **Date:** 27 March 2024	
Photo: 42 WL-41-PEM **Direction of View:** East **Date:** 27 March 2024	

Photo: 43 WL-41-PEM **Direction of View:** South **Date:** 27 March 2024	
Photo: 44 WL-41-PEM **Direction of View:** West **Date:** 27 March 2024	
Photo: 45 DP UPL-41 **Direction of View:** North **Date:** 27 March 2024	

Photo: 46 DP UPL-41 **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 47 WL-18-PEM **Direction of View:** North **Date:** 28 March 2024	
Photo: 48 WL-18-PEM **Direction of View:** East **Date:** 28 March 2024	

Photo: 49 WL-18-PEM **Direction of View:** South **Date:** 28 March 2024	
Photo: 50 WL-18-PEM **Direction of View:** West **Date:** 28 March 2024	
Photo: 51 DP UPL-18 **Direction of View:** East **Date:** 28 March 2024	

Photo: 52 DP UPL-18 **Direction of View:** West **Date:** 28 March 2024	
Photo: 53 DP 33A **Direction of View:** North **Date:** 27 March 2024	
Photo: 54 DP 33A **Direction of View:** South **Date:** 27 March 2024	

Photo: 55 DP 33 **Direction of View:** North **Date:** 27 March 2024	
Photo: 56 DP 33 **Direction of View:** South **Date:** 27 March 2024	
Photo: 57 DP 31 **Direction of View:** North **Date:** 27 March 2024	

Photo: 58 DP 31 **Direction of View:** South **Date:** 27 March 2024	
Photo: 59 DP 28 **Direction of View:** North **Date:** 27 March 2024	
Photo: 60 DP 28 **Direction of View:** South **Date:** 27 March 2024	

Photo: 61 DP 25 **Direction of View:** North **Date:** 27 March 2024	
Photo: 62 DP 25 **Direction of View:** South **Date:** 27 March 2024	
Photo: 63 DP 22 **Direction of View:** North **Date:** 27 March 2024	

Photo: 64 DP 22 **Direction of View:** South **Date:** 27 March 2024	
Photo: 65 DP 19 **Direction of View:** North **Date:** 27 March 2024	
Photo: 66 DP 19 **Direction of View:** South **Date:** 27 March 2024	

Photo: 67 DP 16 **Direction of View:** North **Date:** 27 March 2024	
Photo: 68 DP 16 **Direction of View:** South **Date:** 27 March 2024	
Photo: 69 DP 14 **Direction of View:** North **Date:** 27 March 2024	

Photo: 70 DP 14 **Direction of View:** South **Date:** 27 March 2024	
Photo: 71 DP 12 **Direction of View:** North **Date:** 27 March 2024	
Photo: 72 DP 12 **Direction of View:** South **Date:** 27 March 2024	

Photo: 73 DP 10 **Direction of View:** North **Date:** 27 March 2024	
Photo: 74 DP 10 **Direction of View:** South **Date:** 27 March 2024	
Photo: 75 DP 8 **Direction of View:** North **Date:** 27 March 2024	

Photo: 76 DP 8 **Direction of View:** South **Date:** 27 March 2024	
Photo: 77 DP 6 **Direction of View:** Northeast **Date:** 27 March 2024	
Photo: 78 DP 6 **Direction of View:** Southwest **Date:** 27 March 2024	

Photo: 79 DP 4 **Direction of View:** Northeast **Date:** 27 March 2024	
Photo: 80 DP 4 **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 81 DP 4A **Direction of View:** Northeast **Date:** 27 March 2024	

Photo: 82 DP 4A **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 83 DP 3 **Direction of View:** Northeast **Date:** 27 March 2024	
Photo: 84 DP 3 **Direction of View:** Southwest **Date:** 27 March 2024	

Photo: 85 DP 2 **Direction of View:** Northeast **Date:** 27 March 2024	
Photo: 86 DP 2 **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 87 DP 71 **Direction of View:** North **Date:** 27 March 2024	

Photo: 88 DP 71 **Direction of View:** South **Date:** 27 March 2024	
Photo: 89 DP 70 **Direction of View:** North **Date:** 27 March 2024	
Photo: 90 DP 70 **Direction of View:** South **Date:** 27 March 2024	

Photo: 91 DP 68 **Direction of View:** North **Date:** 27 March 2024	
Photo: 92 DP 68 **Direction of View:** South **Date:** 27 March 2024	
Photo: 93 DP 63 **Direction of View:** North **Date:** 27 March 2024	

Photo: 94 DP 63 **Direction of View:** South **Date:** 27 March 2024	
Photo: 95 DP 62A **Direction of View:** North **Date:** 27 March 2024	
Photo: 96 DP 62A **Direction of View:** South **Date:** 27 March 2024	

Photo: 97 DP 62 **Direction of View:** North **Date:** 27 March 2024	
Photo: 98 DP 62 **Direction of View:** South **Date:** 27 March 2024	
Photo: 99 DP 59 **Direction of View:** Northeast **Date:** 27 March 2024	

Photo: 100 DP 59 **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 101 DP 57 **Direction of View:** North **Date:** 27 March 2024	
Photo: 102 DP 57 **Direction of View:** Southwest **Date:** 27 March 2024	

Photo: 103 DP 52 **Direction of View:** East **Date:** 27 March 2024	
Photo: 104 DP 52 **Direction of View:** West **Date:** 27 March 2024	
Photo: 105 DP 51 **Direction of View:** Northwest **Date:** 27 March 2024	

Photo: 106 DP 51 **Direction of View:** Southeast **Date:** 27 March 2024	
Photo: 107 DP 48 **Direction of View:** North **Date:** 27 March 2024	
Photo: 108 DP 48 **Direction of View:** South **Date:** 27 March 2024	

Photo: 109 DP 46 **Direction of View:** North **Date:** 27 March 2024	
Photo: 110 DP 46 **Direction of View:** South **Date:** 27 March 2024	
Photo: 111 DP 44 **Direction of View:** North **Date:** 27 March 2024	

Photo: 112 DP 44 **Direction of View:** South **Date:** 27 March 2024	
Photo: 113 DP 42 **Direction of View:** North **Date:** 27 March 2024	
Photo: 114 DP 42 **Direction of View:** South **Date:** 27 March 2024	

Photo: 115 DP 41 **Direction of View:** North **Date:** 27 March 2024	
Photo: 116 DP 41 **Direction of View:** South **Date:** 27 March 2024	
Photo: 117 DP 40 **Direction of View:** North **Date:** 27 March 2024	

Photo: 118 DP 40 **Direction of View:** South **Date:** 27 March 2024	
Photo: 119 DP 39 **Direction of View:** North **Date:** 27 March 2024	
Photo: 120 DP 39 **Direction of View:** South **Date:** 27 March 2024	

Photo: 121 DP 36 **Direction of View:** North **Date:** 28 March 2024	
Photo: 122 DP 36 **Direction of View:** South **Date:** 28 March 2024	
Photo: 123 DP 34 **Direction of View:** North **Date:** 28 March 2024	

Photo: 124 DP 34 **Direction of View:** South **Date:** 28 March 2024	
Photo: 125 DP 32 **Direction of View:** Northeast **Date:** 28 March 2024	
Photo: 126 DP 32 **Direction of View:** West **Date:** 28 March 2024	

Photo: 127 DP 31A **Direction of View:** North **Date:** 28 March 2024	
Photo: 128 DP 31A **Direction of View:** South **Date:** 28 March 2024	
Photo: 129 DP 26 **Direction of View:** North **Date:** 28 March 2024	

Photo: 130 DP 26 **Direction of View:** South **Date:** 28 March 2024	
Photo: 131 DP 23 **Direction of View:** North **Date:** 28 March 2024	
Photo: 132 DP 23 **Direction of View:** South **Date:** 28 March 2024	

Photo: 133 DP 22 **Direction of View:** North **Date:** 28 March 2024	
Photo: 134 DP 22 **Direction of View:** South **Date:** 28 March 2024	
Photo: 135 DP 20 **Direction of View:** Northwest **Date:** 28 March 2024	

Photo: 136 DP 20 **Direction of View:** Southeast **Date:** 28 March 2024	
Photo: 137 DP 15 **Direction of View:** Northeast **Date:** 28 March 2024	
Photo: 138 DP 15 **Direction of View:** South **Date:** 28 March 2024	

Photo: 139 DP 13 **Direction of View:** Northeast **Date:** 28 March 2024	
Photo: 140 DP 13 **Direction of View:** Southwest **Date:** 28 March 2024	
Photo: 141 DP 11 **Direction of View:** North **Date:** 28 March 2024	

Photo: 142 DP 11 **Direction of View:** South **Date:** 28 March 2024	
Photo: 143 DP 8A **Direction of View:** North **Date:** 28 March 2024	
Photo: 144 DP 8A **Direction of View:** South **Date:** 28 March 2024	

Photo: 145 DP 7 **Direction of View:** North **Date:** 28 March 2024	
Photo: 146 DP 7 **Direction of View:** South **Date:** 28 March 2024	
Photo: 147 DP 5A **Direction of View:** North **Date:** 28 March 2024	

Photo: 148 DP 5A **Direction of View:** South **Date:** 28 March 2024	
Photo: 149 DP 3A **Direction of View:** North **Date:** 28 March 2024	
Photo: 150 DP 3A **Direction of View:** South **Date:** 28 March 2024	

Photo: 151 DP 1A **Direction of View:** East **Date:** 28 March 2024	
Photo: 152 DP 1A **Direction of View:** West **Date:** 28 March 2024	
Photo: 153 DP 1 **Direction of View:** East **Date:** 28 March 2024	

Photo: 154 DP 1 **Direction of View:** West **Date:** 28 March 2024	
Photo: 155 ST-31-PER **Direction of View:** North **Date:** 27 March 2024	
Photo: 156 ST-31-PER **Direction of View:** South **Date:** 27 March 2024	

Photo: 157 ST-25-PER **Direction of View:** East **Date:** 27 March 2024	
Photo: 158 ST-25-PER **Direction of View:** West **Date:** 27 March 2024	
Photo: 159 ST-15-PER **Direction of View:** East **Date:** 27 March 2024	

Photo: 160 ST-15-PER **Direction of View:** Southwest **Date:** 27 March 2024	
Photo: 161 Walnut Creek **Direction of View:** East **Date:** 27 March 2024	
Photo: 162 Walnut Creek **Direction of View:** West **Date:** 27 March 2024	

Photo: 163 ST-2-PER **Direction of View:** East **Date:** 27 March 2024	
Photo: 164 ST-2-PER **Direction of View:** West **Date:** 27 March 2024	
Photo: 165 ST-68-INT **Direction of View:** East **Date:** 27 March 2024	

Photo: 166 ST-68-INT **Direction of View:** West **Date:** 27 March 2024	
Photo: 167 ST-63-EPH **Direction of View:** Northeast **Date:** 27 March 2024	
Photo: 168 ST-63-EPH **Direction of View:** Southwest **Date:** 27 March 2024	

Photo: 169 ST-55-INT **Direction of View:** East **Date:** 27 March 2024	
Photo: 170 ST-55-INT **Direction of View:** West **Date:** 27 March 2024	
Photo: 171 ST-53-INT **Direction of View:** North **Date:** 27 March 2024	

Photo: 172 ST-53-INT **Direction of View:** South **Date:** 27 March 2024	
Photo: 173 ST-48-EPH **Direction of View:** Northwest **Date:** 27 March 2024	
Photo: 174 ST-48-EPH **Direction of View:** Southeast **Date:** 27 March 2024	

Photo: 175 ST-44-INT **Direction of View:** East **Date:** 27 March 2024	
Photo: 176 ST-44-INT **Direction of View:** West **Date:** 27 March 2024	
Photo: 177 ST-44-EPH **Direction of View:** North **Date:** 27 March 2024	

Photo: 178 ST-44-EPH **Direction of View:** South **Date:** 27 March 2024	
Photo: 179 ST-42-INT **Direction of View:** East **Date:** 27 March 2024	
Photo: 180 ST-42-INT **Direction of View:** West **Date:** 27 March 2024	

Photo: 181 ST-14-PER **Direction of View:** East **Date:** 28 March 2024	
Photo: 182 ST-14-PER **Direction of View:** Southwest **Date:** 28 March 2024	
Photo: 183 Hocking River **Direction of View:** Northwest **Date:** 28 March 2024	

Photo: 184 Hocking River **Direction of View:** Southeast **Date:** 28 March 2024	
Photo: 185 ST-11-INT **Direction of View:** Northwest **Date:** 28 March 2024	
Photo: 186 ST-11-INT **Direction of View:** Southeast **Date:** 28 March 2024	

Photo: 187 Hunters Run **Direction of View:** Northwest **Date:** 28 March 2024	
Photo: 188 Hunters Run **Direction of View:** East **Date:** 28 March 2024	
Photo: 189 OW-32-POND **Direction of View:** East **Date:** 28 March 2024	

Photo: 190 OW-32-POND **Direction of View:** South **Date:** 28 March 2024	
Photo: 191 OW-22-POND **Direction of View:** Northwest **Date:** 28 March 2024	
Photo: 192 OW-22-POND **Direction of View:** South **Date:** 28 March 2024	

Appendix C

Data Forms

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-12
Client: AEP State: OH Section, Township, Range: Sec S19, T 16N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terraces Local Relief Concave
Slope (%): 1-3 Lat. 39.847477 Long. -82.586566 Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes x No

Is the DP within a Wetland? Yes x No

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Leersia oryzoides*	80	Y	OBL 1
2. *Elymus virginicus*	20	Y	FACW 2
3.			
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	80 x 1	80
FACW species	20 x 2	40
FAC species	0 x 3	0
FACU species	0 x 4	0
UPL species	0 x 5	0
Total	100	120
Prevalence Index:		1.20

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes x No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes x No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
x Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
x High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
x Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	x Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	x FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations:
Surface Water Present? Yes x No Depth (inches) 1
Water Table Present? Yes x No Depth (inches) 0
Saturation Present? Yes x No Depth (inches) 0

Hydroloy Indicators Present? Yes x No

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-12
Client: AEP State: OH Section, Township, Range: Sec S19, T 16N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terraces Local Relief Convex
Slope (%): 1-3 Lat. 39.847526 Long. -82.586522 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rosa multiflora*	8	Y	FACU	4
2. *Rubus allegheniensis*	2	Y	FACU	4
3.				
4.				
5.				
	10	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Solidago canadensis*	75	Y	FACU	4
2. *Apocynum cannabinum*	20	Y	FAC	3
3. *Vernonia gigantea*	5	N	FAC	3
4.				
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 25.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	25	x 3	75
FACU species	85	x 4	340
UPL species	0	x 5	0
Total	110		415
		Prevalence Index:	3.77

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-13	10YR 4/1	100					Si C L	
13-18	10YR 4/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-10
Client: AEP State: OH Section, Township, Range: Sec S25, R 16N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terrances Local Relief Concave
Slope (%): 1-3 Lat. 39.841685 Long. -82.589005 Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes x No

Is the DP within a Wetland? Yes x No

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Elymus virginicus*	25	Y	FACW 2
2. *Barbarea vulgaris*	15	Y	FAC 3
3.			
4.			
5.			
6.			
7.			
8.			
	40	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:

OBL species	0	x 1	0
FACW species	25	x 2	50
FAC species	15	x 3	45
FACU species	0	x 4	0
UPL species	0	x 5	0
Total	40		95

Prevalence Index: 2.38

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes x No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	x Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes x No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
x Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
x High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
x Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	x Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	x FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations:
Surface Water Present? Yes x No Depth (inches) 1
Water Table Present? Yes x No Depth (inches) 0
Saturation Present? Yes x No Depth (inches) 0

Hydroloy Indicators Present? Yes x No

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-10
Client: AEP State: OH Section, Township, Range: Sec S25, R 16N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terrances Local Relief Convex
Slope (%): Lat. 39.841658 Long. -82.589099 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes No x
Is the DP within a Wetland? Yes No x
Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Triticum aestivum residue*	80	Y	UPL 5
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	80	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	0 x 1	0
FACW species	0 x 2	0
FAC species	0 x 3	0
FACU species	0 x 4	0
UPL species	80 x 5	400
Total	80	400
Prevalence Index:		5.00

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No x

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/1	100					Si C L	
4-18	10YR 3/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- x Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):
Hydric Soil Present? Yes x No
Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)
Hydroloy Indicators Present? Yes No x
Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-5
Client: AEP State: OH Section, Township, Range: Sec S25, R 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Lake Plains Local Relief Concave
Slope (%): Lat. 39.834307° Long. -82.591561° Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Minster silty clay loam, 0 to 1 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes X No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the DP within a Wetland? Yes X No
Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
		Total Cover		
Herb Stratum (Plot size: 5')				
1. *Scirpus atrovirens*	60	Y	OBL	1
2. *Apocynum cannabinum*	20	Y	FAC	3
3. *Alisma subcordatum*	10	N	OBL	1
4. *Juncus effusus*	10	N	OBL	1
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 4
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 1.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	80 x 1	80
FACW species	0 x 2	0
FAC species	20 x 3	60
FACU species	0 x 4	0
UPL species	0 x 5	0
Total	100	140
	Prevalence Index:	1.40

Hydrophytic Vegetation Indicators:
- ___ Rapid Test for Hydrophytic Veg.
- X Dominance Test is >50%
- X Prevalence Index is ≤3.0*
- ___ Morphological Adaptations*
- ___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes X No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-6	10YR 4/2	100					SiL	
6-18	10YR 4/2	95	10YR 7/6	5	C	M	SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
___ Histic Epipedon (A2)	___ 5cm Mucky Peat or Peat	___ Depleted Dark Surface (F7)
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Coast Prairie Redox (A16)
___ 2 cm Muck (A10)	___ Loamy Mucky Mineral (F1)	___ Iron-Manganese Masses (F12)
___ Depleted Below Dark Surface (A11)	___ Loamy Gleyed Matrix (F2)	___ Very Shallow Dark Surface (F12)
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):
Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
X High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
X Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soil (C6)	X Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	X FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Guage or Well Data (D9)	
___ Sparsely Vegetated Concave Surface	___ Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches)
Saturation Present? Yes X No Depth (inches)
Hydroloy Indicators Present? Yes X No

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-5
Client: AEP State: OH Section, Township, Range: Sec S25, R 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Lake Plains Local Relief Convex
Slope (%): Lat. 39.834361° Long. -82.591594° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Minster silty clay loam, 0 to 1 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes** **No** **X**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus allegheniensis*	5	Y	FACU	4
2. *Acer rubrum*	5	Y	FAC	3
3.				
4.				
5.				
	10	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Solidago canadensis*	50	Y	FACU	4
2. *Schedonorus arundinaceus*	30	Y	FACU	4
3. *Dichanthelium clandestinum*	20	Y	FACW	2
4.				
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 5
Percent of dominant species that are OBL, FACW, or FAC: 40.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	20	x 2	40
FAC species	5	x 3	15
FACU species	85	x 4	340
UPL species	0	x 5	0
Total	110		395
		Prevalence Index:	3.59

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
X Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **x** **No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-12	10YR 3/2	100					SiCL	
12-18	10YR 4/2	95	10YR 6/6	5	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
X Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations:
Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes No X Depth (inches)
Saturation Present? Yes X No 10 Depth (inches)

Hydroloy Indicators Present? **Yes** **X** **No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-68
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Till Plains Local Relief Concave
Slope (%): 1-3 Lat. 39.822005° Long. -82.597640° Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland?
Yes X No

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Juncus effusus*	40	Y	OBL	1
2. *Dichanthelium clandestinum*	30	Y	FACW	2
3. *Solidago canadensis*	10	N	FACU	4
4. *Elymus canadensis*	4	N	FACU	4
5. *Carex molesta*	1	N	FAC	3
6.				
7.				
8.				
	85	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 3
Total number of dominant species across all strata: 5
Percent of dominant species that are OBL, FACW, or FAC: 60.00

Prevalence Index Worksheet
Total % cover of:

OBL species	1 x 1		1
FACW species	30 x 2		60
FAC species	1 x 3		3
FACU species	14 x 4		56
UPL species	0 x 5		0
Total	46		120
		Prevalence Index:	2.61

Hydrophytic Vegetation Indicators:
Rapid Test for Hydrophytic Veg.
x Dominance Test is >50%
x Prevalence Index is ≤3.0*
Morphological Adaptations*
Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?
Yes X No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	90	10YR 5/4	10	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	X Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	X FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 5
Saturation Present? Yes No X Depth (inches)

Hydroloy Indicators Present?
Yes X No

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-68
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Till Plains Local Relief Convex
Slope (%): Lat. 39.822032° Long. -82.597449° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes		No	X

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus allegheniensis*	10	Y	FACU	4
2.				
3.				
4.				
5.				
	10	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Juncus tenuis*	50	Y	FAC	3
2. *Solidago canadensis*	20	Y	FACU	4
3. *Symphyotrichum ericoides*	10	Y	FACU	4
4.				
5.				
6.				
7.				
8.				
	80	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	2
Total number of dominant species across all strata:	4
Percent of dominant species that are OBL, FACW, or FAC:	50.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	0	x 2	0
FAC species	50	x 3	150
FACU species	40	x 4	160
UPL species	0	x 5	0
Total	91		311
		Prevalence Index:	3.42

Hydrophytic Vegetation Indicators:
- ___ Rapid Test for Hydrophytic Veg.
- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0*
- ___ Morphological Adaptations*
- ___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	90	10YR 5/4	10	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
___ Histic Epipedon (A2)	___ 5cm Mucky Peat or Peat	___ Depleted Dark Surface (F7)
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Coast Prairie Redox (A16)
___ 2 cm Muck (A10)	___ Loamy Mucky Mineral (F1)	___ Iron-Manganese Masses (F12)
___ Depleted Below Dark Surface (A11)	___ Loamy Gleyed Matrix (F2)	___ Very Shallow Dark Surface (F12)
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **X** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soil (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Guage or Well Data (D9)	
___ Sparsely Vegetated Concave Surface	___ Other	

Field Observations:

Surface Water Present?	Yes	No	Depth (inches)
Water Table Present?	Yes	No	Depth (inches)
Saturation Present?	Yes	No	Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-60
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Till Plains Local Relief Concave
Slope (%): Lat. 39.809106° Long. -82.610454° Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Marengo clay loam
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland?
Yes X No

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Juncus effusus*	45	Y	OBL 1
2. *Phalaris arundinacea*	25	Y	FACW 2
3. *Thyrsanthella difformis*	15	N	FACW 2
4. *Dipsacus laciniatus*	10	N	UPL 5
5. *Lepidium latifolium*	3	N	FACW 2
6. *Carex vulpinoidea*	2	N	FACW 2
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	5
Total number of dominant species across all strata:	6
Percent of dominant species that are OBL, FACW, or FAC:	83.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	45	x 2	90
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	10	x 5	50
Total	56		141
		Prevalence Index:	2.52

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?
Yes X No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-6	10YR 4/2	100					SiCL	
6-18	10YR 4/2	95	10YR 4/6	10	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	X Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	X FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 9
Saturation Present? Yes X No Depth (inches) 6

Hydroloy Indicators Present?
Yes X No

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-60
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Till Plains Local Relief Convex
Slope (%): Lat. 39.809228° Long. -82.610301° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Marengo clay loam
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes		No	X

Is the DP within a Wetland? **Yes X No**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	55	Y	FACU	4
2. *Juncus effusus*	10	N	OBL	1
3. *Juncus tenuis*	10	N	FAC	3
4. *Carex frankii*	5	N	OBL	1
5. *Trifolium pratense*	5	N	FACU	4
6. *Dipsacus fullonum*	5	N	FACU	4
7. *Solidago canadensis*	5	N	FACU	4
8.				
	95	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	4
Total number of dominant species across all strata:	7
Percent of dominant species that are OBL, FACW, or FAC:	57.14

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	0	x 2	0
FAC species	10	x 3	30
FACU species	70	x 4	280
UPL species	0	x 5	0
Total	81		311
		Prevalence Index:	3.84

Hydrophytic Vegetation Indicators:
- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes X No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-6	10YR 4/2	100					SiCL	
6-18	10YR 4/2	95	10YR 4/6	10	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes X No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	X FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations:					
Surface Water Present?	Yes	No	X	Depth (inches)	
Water Table Present?	Yes	No	X	Depth (inches)	**Hydroloy Indicators Present?**
Saturation Present?	Yes	No	X	Depth (inches)	**Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-60A
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Concave
Slope (%): Lat. 39.807529° Long. '-82.611944° Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Centerburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland?
Yes X No

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Juncus effusus*	20	Y	OBL	1
2. *Scirpus cyperinus*	20	Y	OBL	1
3. *Phalaris arundinacea*	15	N	FACW	2
4. *Carex frankii*	10	N	OBL	1
5. *Carex vulpinoidea*	10	N	FACW	2
6. *Alisma subcordatum*	5	N	OBL	1
7. *Typha latifolia*	5	N	OBL	1
8. *Carex muskingumensis*	5	N	OBL	1
	90	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	8
Total number of dominant species across all strata:	8
Percent of dominant species that are OBL, FACW, or FAC:	100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	25	x 2	50
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	0	x 5	0
Total	26		51
Prevalence Index:			1.96

Hydrophytic Vegetation Indicators:
- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?
Yes X No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 4/2	100					SiL	
4-18	10YR 4/2	90	10YR 4/6	10	C	M	SICL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	X Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	X Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	X FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 5
Saturation Present? Yes X No Depth (inches) 5

Hydroloy Indicators Present?
Yes X No

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-60A
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): Lat. 39.807445° Long. -82.611981° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centerburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Solidago canadensis*	70	Y	FACU	4
2. *Rubus allegheniensis*	15	N	FACU	4
3. *Rosa multiflora*	10	N	FACU	4
4. *Poa pratensis*	5	N	FAC	3
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 25.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	0 x 2		0
FAC species	5 x 3		15
FACU species	95 x 4		380
UPL species	0 x 5		0
Total	101		396
		Prevalence Index:	3.92

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/2	100					SICL	
4-18	10YR 3/2	95	10YR 6/6	5	C	M	SICL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
X Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **X** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
X High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
X Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 12
Saturation Present? Yes X No Depth (inches)

Hydroloy Indicators Present? **Yes** **X** **No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-50
Client: AEP State: OH Section, Township, Range: Sec S11, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Concave
Slope (%): 1-3 Lat. 39.793217 Long. -82.621980 Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Centerburg silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes x No

Is the DP within a Wetland? **Yes x No**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Carex vulpinoidea*	100	Y	FACW	2
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:

OBL species	0	x 1	0
FACW species	100	x 2	200
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	0	x 5	0
Total	100		200

Prevalence Index: 2.00

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes x No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/1	85	7.5YR 4/6	15	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes x No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	x Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	x Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	x FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes x No**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-50
Client: AEP State: OH Section, Township, Range: Sec S11, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 2-5 Lat. 39.793193 Long. -82.622009 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centerburg silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Setaria faberi*	70	Y	FACU	4
2. *Zea mays residue*	20	Y	UPL	5
3. *Panicum virgatum*	5	N	FAC	3
4. *Rubus allegheniensis*	5	N	FACU	4
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	5	x 3	15
FACU species	75	x 4	300
UPL species	20	x 5	100
Total	100		415
		Prevalence Index:	4.15

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-41
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Flood Plains Local Relief Concave
Slope (%): Lat. 39.774841° Long. -82.628062° Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Aetna silt loam, fan, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes X No**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus allegheniensis*	5	Y	FACU	4
2.				
3.				
4.				
5.				
	5	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Verbena urticifolia*	20	Y	FAC	3
2. *Phalaris arundinacea*	20	Y	FACW	2
3. *Physostegia virginiana*	15	N	FACW	2
4. *Juncus effusus*	15	N	OBL	1
5. *Carex frankii*	10	N	OBL	1
6. *Juncus tenuis*	10	N	FAC	3
7. *Carex muskingumensis*	5	N	OBL	1
8. *Setaria faberi*	3	N	FACU	4
	98	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 7
Total number of dominant species across all strata: 9
Percent of dominant species that are OBL, FACW, or FAC: 77.78

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	35	x 2	70
FAC species	30	x 3	90
FACU species	8	x 4	32
UPL species	0	x 5	0
Total	74		193
		Prevalence Index:	2.61

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes X No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-10	10YR 4/2	95	10YR 4/6	5	C	M	SiL	
10-13	10YR 4/2	85	10YR 4/6	15	C	M	SiL	
13-18	10YR 2/1	100					SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes X No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 14
Saturation Present? Yes X No Depth (inches) 14

Hydroloy Indicators Present? **Yes X No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-41
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Flood Plains Local Relief Convex
Slope (%): Lat. 39.774898° Long. '-82.628027° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, fan, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes		No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes		No	X

Is the DP within a Wetland? **Yes** **No**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus allegheniensis*	15	Y	FACU	4
2. *Rubus occendentalis*	5	N	UPL	5
3. *Elaeagnus angustifolia*	5	N	FACU	4
4.				
5.				
	25	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	70	Y	FACU	4
2. *Brassica rapa*	10	N	UPL	5
3. *Plantago major*	10	N	FAC	3
4. *Carex frankii*	10	N	OBL	1
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	3
Total number of dominant species across all strata:	8
Percent of dominant species that are OBL, FACW, or FAC:	37.50

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	0 x 2		0
FAC species	10 x 3		30
FACU species	90 x 4		360
UPL species	15 x 5		75
Total	116		466
		Prevalence Index:	4.02

Hydrophytic Vegetation Indicators:
- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-6	10YR 3/3	100					SaSiL	
6-9	10YR 4/2	96	10YR 5/6	4	C	M	SaSiL	
9-18	10YR 3/3	100					SaSiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **X** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations:					
Surface Water Present?	Yes	No	x	Depth (inches)	
Water Table Present?	Yes	No	x	Depth (inches)	
Saturation Present?	Yes	No	x	Depth (inches)	

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: WL-41A
Client: AEP State: OH Section, Township, Range:
Investigator(s): L. Vine, E.Holt Landform Flood Plains Local Relief Concave
Slope (%): Lat. 39.774189° Long. -82.628267° Datum NAD83 NWI Class: PEM
Soil Map Unit Name: Aetna silt loam, fan, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes X No**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex vulpinoidea*	20	Y	FACW 2
2. *Apocynum cannabinum*	15	N	FAC 3
3. *Carex muskingumensis*	10	N	OBL 1
4. *Epilobium coloratum*	10	N	OBL 1
5. *Cinna arundinacea*	10	N	FACW 2
6. *Poa pratensis*	10	N	FAC 3
7. *Symphyotrichum lateriflorum*	10	N	FACW 2
8. *Lycopus americanus*	5	N	OBL 1
	90	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 8
Total number of dominant species across all strata: 8
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	40	x 2	80
FAC species	25	x 3	75
FACU species	0	x 4	0
UPL species	0	x 5	0
Total	66		156
		Prevalence Index:	2.36

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes X No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-2	10YR 4/2	100					SiL	
2-18	10YR2/1	97	10YR 4/6	3	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes X No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	x Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	x FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes X No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: UPL-41A
Client: AEP State: OH Section, Township, Range:
Investigator(s): L. Vine, E.Holt Landform Flood Plains Local Relief Convex
Slope (%): Lat. 39.774139° Long. '-82.628196° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, fan, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Setaria faberi*	60	Y	FACU	4
2. *Carex frankii*	15	N	OBL	1
3. *Verbena urticifolia*	10	N	FAC	3
4. *Euthamia graminifolia*	10	N	FACW	2
5. *Solidago canadensis*	5	N	FACU	4
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	3
Total number of dominant species across all strata:	5
Percent of dominant species that are OBL, FACW, or FAC:	60.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	10	x 2	20
FAC species	10	x 3	30
FACU species	65	x 4	260
UPL species	0	x 5	0
Total	86		311
		Prevalence Index:	3.62

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Veg.
x	Dominance Test is >50%
	Prevalence Index is ≤3.0*
	Morphological Adaptations*
	Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **X** **No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		**Secondary Indicators**
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations:						
Surface Water Present?	Yes		No	X	Depth (inches)	
Water Table Present?	Yes	X	No		Depth (inches)	16
Saturation Present?	Yes		No	X	Depth (inches)	

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: WL-18
Client: AEP State: OH Section, Township, Range: Sec S35, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform: Flood Plains Local Relief: Concave
Slope (%): Lat. 39.729007 Long. -82.633563 Datum: NAD83 NWI Class: PEM
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N, Soil N or Hydrology N significantly disturbed
Vegetation N, Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes x No

Is the DP within a Wetland? Yes x No

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	98	Y	FACW 2
2. *Apocynum cannabinum*	2	N	FAC 3
3.			
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	0 x 1	0
FACW species	98 x 2	196
FAC species	2 x 3	6
FACU species	0 x 4	0
UPL species	0 x 5	0
Total	100	202
Prevalence Index:		2.02

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes x No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-5	10YR 3/2	95	10YR 5/6	5	C	M	Si C L	
5-18	10YR 4/2	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- x Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes x No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	x Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	x FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations:

Surface Water Present?	Yes	No	x	Depth (inches)
Water Table Present?	Yes	No	x	Depth (inches)
Saturation Present?	Yes	No	x	Depth (inches)

Hydroloy Indicators Present? Yes x No

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S.Baltimore-W.Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: UPL-18
Client: AEP State: OH Section, Township, Range: Sec S35, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Flood Plains Local Relief Convex
Slope (%): Lat. 39.728973 Long. -82.633588 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x
Is the DP within a Wetland? Yes No x
Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Catalpa speciosa*	50	Y	FACU	4
2. *Rosa multiflora*	15	Y	FACU	4
3. *Crataegus crus-galli*	2	N	FAC	3
4.				
5.				
	67	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Elymus virginicus*	50	Y	FACW	2
2. *Taraxacum officinale*	10	N	FACU	4
3. *Phalaris arundinacea*	5	N	FACW	2
4.				
5.				
6.				
7.				
8.				
	65	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet
Total % cover of:

OBL species	0	x 1	0
FACW species	55	x 2	110
FAC species	2	x 3	6
FACU species	75	x 4	300
UPL species	0	x 5	0
Total	132		416
		Prevalence Index:	3.15

Hydrophytic Vegetation Indicators:
___ Rapid Test for Hydrophytic Veg.
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0*
___ Morphological Adaptations*
___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No x

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5cm Mucky Peat or Peat
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Very Shallow Dark Surface (F12)
___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):
Hydric Soil Present? Yes No x
Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface
___ Water Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soil (C6)
___ Thin Muck Surface (C7)
___ Guage or Well Data (D9)
___ Other

Secondary Indicators

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)
Hydroloy Indicators Present? Yes No x

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 33A
Client: AEP State: OH Section, Township, Range: Sec S6, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Drainageways Local Relief Convex
Slope (%): 1-3 Lat. 39.887537 Long. -82.567358 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Pewamo silty clay loam, low caronate till, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Rubus allegheniensis*	50	Y	FACU	4
2.	*Ligustrum vulgare*	5	N	FACU	4
3.					
4.					
5.					
		55	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Solidago canadensis*	40	Y	FACU	4
2.	*Poa pratensis*	10	N	FAC	3
3.	*Cirsium arvense*	2	N	FACU	4
4.	*Daucus carota*	2	N	UPL	5
5.					
6.					
7.					
8.					
		54	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	10	x 3	30
FACU species	97	x 4	388
UPL species	2	x 5	10
Total	109		428

Prevalence Index: 3.93

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 33
Client: AEP State: OH Section, Township, Range: Sec S6, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Drainageways Local Relief Convex
Slope (%): 1-3 Lat. 39.886661 Long. -82.567648 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Pewamo silty clay loam, low caronate till, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes x	No	
Hydric Soil Present?	Yes	No x	**Is the DP within a Wetland?**
Wetland Hydrology Present?	Yes	No x	**Yes No x**

Remarks:

VEGETATION

Tree Stratum Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum Plot size: 15'			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum Plot size: 5'			
1. *Barbarea vulgaris*	40	Y	FAC 3
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40	Total Cover	
Woody Vine Stratum Plot size: 30'			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC:	1
Total number of dominant species across all strata:	1
Percent of dominant species that are OBL, FACW, or FAC:	100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0 x 1		0
FACW species	0 x 2		0
FAC species	40 x 3		120
FACU species	0 x 4		0
UPL species	0 x 5		0
Total	40		120
		Prevalence Index:	3.00

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?
Yes x No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-14	10YR 3/1	100					Si C L	
14-18	10YR 3/1	95	10YR 5/6	5			Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes No x

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present?
Yes No x

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 31
Client: AEP State: OH Section, Township, Range: Sec S6, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Drainageways Local Relief Convex
Slope (%): 1-3 Lat. 39.884459 Long. -82.569989 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Pewamo silty clay loam, low caronate till, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Lamium purpureum*	48	Y	UPL 5
2. *Zea mays residue*	40	Y	UPL 5
3. *Conium maculatum*	5	N	FACW 2
4. *Stellaria media*	5	N	FACU 4
5. *Allium vineale*	2	N	FACU 4
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	0 x 1	0
FACW species	5 x 2	10
FAC species	0 x 3	0
FACU species	7 x 4	28
UPL species	88 x 5	440
Total	100	478
	Prevalence Index:	4.78

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/1	100					C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)
_ High Water Table (A2)	_ Aquatic Fauna (B13)
_ Saturation (A3)	_ True Aquatic Plants (B14)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)
_ Sparsely Vegetated Concave Surface	_ Other

Secondary Indicators
_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 28
Client: AEP State: OH Section, Township, Range: Sec S7, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Drainageways Local Relief Convex
Slope (%): 1-3 Lat. 39.877952 Long. -82.574087 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Pewamo silty clay loam, low caronate till, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	**Plot size: 15'**			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	**Plot size: 5'**			
1.	*Glycine max residue*	60	Y	UPL 5
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		60	Total Cover	
Woody Vine Stratum	**Plot size: 30'**			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	60	x 5	300
Total	60		300
		Prevalence Index:	5.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 25
Client: AEP State: OH Section, Township, Range: Sec S7, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Drainageways Local Relief Convex
Slope (%): 1-3 Lat. 39.871979 Long. -82.576534 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Pewamo silty clay loam, low caronate till, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Rubus allegheniensis*	5	Y	FACU	4
2.	*Rosa multiflora*	3	N	FACU	4
3.					
4.					
5.					
		8	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Conium maculatum*	30	Y	FACW	2
2.	*Lamium purpureum*	30	Y	UPL	5
3.	*Cyperus esculentus*	20	Y	FACW	2
4.	*Stellaria media*	10	N	FACU	4
5.					
6.					
7.					
8.					
		90	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 50.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	50	x 2	100
FAC species	0	x 3	0
FACU species	18	x 4	72
UPL species	30	x 5	150
Total	98		322
		Prevalence Index:	3.29

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 22
Client: AEP State: OH Section, Township, Range: Sec S18, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.866541 Long. -82.578898 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Glycine max residue*	40	Y	UPL	5
2.	*Barbarea vulgaris*	20	Y	FAC	3
3.	*Stellaria media*	20	Y	FACU	4
4.	*Allium vineale*	5	N	FACU	4
5.					
6.					
7.					
8.					
		85	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	0 x 1		0
FACW species	0 x 2		0
FAC species	20 x 3		60
FACU species	25 x 4		100
UPL species	40 x 5		200
Total	85	Prevalence Index:	360 / 4.24

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	**Secondary Indicators**
_ Surface Water (A1)	_ Water Stained Leaves (B9)
_ High Water Table (A2)	_ Aquatic Fauna (B13)
_ Saturation (A3)	_ True Aquatic Plants (B14)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)
_ Sparsely Vegetated Concave Surface	_ Other

Field Observations:	Surface Water Present?	Yes	No x	Depth (inches)	
	Water Table Present?	Yes	No x	Depth (inches)	
	Saturation Present?	Yes	No x	Depth (inches)	

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 19
Client: AEP State: OH Section, Township, Range: Sec S18, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.860215 Long. -82.581483 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	**Plot size: 15'**			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	**Plot size: 5'**			
1.	*Zea mays residue*	70	Y	UPL 5
2.	*Stellaria media*	20	Y	FACU 4
3.	*Barbarea vulgaris*	5	N	FAC 3
4.				
5.				
6.				
7.				
8.				
		95	Total Cover	
Woody Vine Stratum	**Plot size: 5'**			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	5	x 3	15
FACU species	20	x 4	80
UPL species	70	x 5	350
Total	95		445
		Prevalence Index:	4.68

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 16
Client: AEP State: OH Section, Township, Range: Sec S19, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Flood Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.854232 Long. -82.583901 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Phalaris arundinacea*	45	Y	FACW	2
2.	*Apocynum cannabinum*	20	Y	FAC	3
3.	*Echinacea pallida*	10	N	UPL	5
4.	*Allium vineale*	5	N	FACU	4
5.					
6.					
7.					
8.					
		80	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0 x 1		0
FACW species	45 x 2		90
FAC species	20 x 3		60
FACU species	5 x 4		20
UPL species	10 x 5		50
Total	80		220
		Prevalence Index:	2.75

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **x** **No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 14
Client: AEP State: OH Section, Township, Range: Sec S19, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Lake Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.851571 Long. -82.584979 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Minster silty clay loam, 0 to 1 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Glycine max residue*	60	Y	UPL 5
2. *Lolium multiflorum*	30	Y	UPL 5
3.			
4.			
5.			
6.			
7.			
8.			
	90	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	90	x 5	450
Total	90		450
		Prevalence Index:	5.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/2	100					C L	
4-18	10YR 2/2	95	10YR 4/6	5	C	M	C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
x Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **x** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 12
Client: AEP State: OH Section, Township, Range: Sec S19, T 16N, R 18W
Investigator(s): N. Houk, N. Barnett Landform Terraces Local Relief Convex
Slope (%): 1-3 Lat. 39.845994 Long. -82.587370 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Pyrus calleryana*	40	Y	UPL	5
2.	*Sambucus canadensis*	15	Y	FACU	4
3.	*Lonicera maackii*	10	N	UPL	5
4.					
5.					
		65	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Allium vineale*	30	Y	FACU	4
2.	*Solidago canadensis*	20	Y	FACU	4
3.	*Poa pratensis*	10	N	FAC	3
4.					
5.					
6.					
7.					
8.					
		60	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	10	x 3	30
FACU species	65	x 4	260
UPL species	50	x 5	250
Total	125		540
		Prevalence Index:	4.32

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 10
Client: AEP State: OH Section, Township, Range: Sec S24, T 16N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Lake Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.843258 Long. -82.588475 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Minster silty clay loam, 0 to 1 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Cornus alba*	30	Y	FACW	2
2.	*Rubus allegheniensis*	20	Y	FACU	4
3.	*Rosa multiflora*	10	N	FACU	4
4.	*Lonicera maackii*	5	N	UPL	5
5.					
		65	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Solidago canadensis*	40	Y	FACU	4
2.	*Juncus tenuis*	15	N	FAC	3
3.	*Poa pratensis*	15	N	FAC	3
4.	*Juncus effusus*	10	N	OBL	1
5.	*Symphyotrichum ericoides*	5	N	FACU	4
6.					
7.					
8.					
		85	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	10 x 1		10
FACW species	30 x 2		60
FAC species	30 x 3		90
FACU species	75 x 4		300
UPL species	5 x 5		25
Total	150		485
		Prevalence Index:	3.23

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-6	10YR 4/1	100					Si L	
6-18	10YR 4/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **x** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	**Secondary Indicators**
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 8
Client: AEP State: OH Section, Township, Range: Sec S25, T 16N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.838578 Long. -82.590298 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	**Plot size: 15'**			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	**Plot size: 5'**			
1.	*Triticum aestivum residue*	80	Y	UPL 5
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		80	Total Cover	
Woody Vine Stratum	**Plot size: 30'**			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	80	x 5	400
Total	80		400

Prevalence Index: 5.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 6
Client: AEP State: OH Section, Township, Range: Sec S25, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.836914° Long. -82.590981° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	Plot size: 15'			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	Plot size: 5'			
1.	*Carex atherodes*	Y	100	OBL 1
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		0	Total Cover	
Woody Vine Stratum	Plot size: 30'			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	1 x 1	1
FACW species	0 x 2	0
FAC species	0 x 3	0
FACU species	0 x 4	0
UPL species	0 x 5	0
Total	1	1
Prevalence Index:		1.00

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- X Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
								Residential, no soil pit taker

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **X**

Remarks: No soil pit taken, residential area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 4
Client: AEP State: OH Section, Township, Range: Sec S25, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.833067° Long. -82.591983° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes No X**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	Plot size: 15'			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	Plot size: 5'			
1.	*Juncus effusus*	30	Y	OBL 1
2.	*Solidago canadensis*	25	Y	FACU 4
3.	*Schedonorus arundinaceus*	20	Y	FACU 4
4.	*Dichanthelium clandestinum*	10	N	FACW 2
5.	*Apocynum cannabinum*	10	N	FAC 3
6.	*Cyperus strigosus*	5	N	FACW 2
7.				
8.				
		100	Total Cover	
Woody Vine Stratum	Plot size: 30'			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	30	x 1	30
FACW species	15	x 2	30
FAC species	10	x 3	30
FACU species	45	x 4	180
UPL species	0	x 5	0
Total	100		270
		Prevalence Index:	2.70

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes x No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-15	7.5YR 4/2	100				M	SiL	
15-18	10YR 4/2	95	10YR 4/6	5	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 4
Saturation Present? Yes X No Depth (inches) 4

Hydroloy Indicators Present? **Yes X No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 4A
Client: AEP State: OH Section, Township, Range: Sec S25, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.832183° Long. -82.592208° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	**Plot size: 15'**			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	**Plot size: 5'**			
1.	*Zea mays residue*	100	Y	UPL 5
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		100	Total Cover	
Woody Vine Stratum	**Plot size: 30'**			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	100	x 5	500
Total	101		501
		Prevalence Index:	4.96

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 3
Client: AEP State: OH Section, Township, Range: Sec S25, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Flood Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.830922° Long. -82.592558° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes x No

Is the DP within a Wetland?
Yes No X

VEGETATION

Tree Stratum Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum Plot size: 15'				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum Plot size: 5'				
1. *Verbesina alternifolia*	25	Y	FACW	
2. *Solidago canadensis*	20	Y	FACW	2
3. *Urtica dioica*	20	Y	FACW	2
4. *Thalictrum dasycarpum*	10	N	FACW	2
5. *Conium maculatum*	10	N	FACW	2
6. *Schedonorus arundinaceus*	10	N	FACU	4
7. *Allium canadense*	5	N	FACU	4
8.				
	100	Total Cover		
Woody Vine Stratum Plot size: 30'				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 5
Total number of dominant species across all strata: 7
Percent of dominant species that are OBL, FACW, or FAC: 71.43

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	85 x 2		170
FAC species	0 x 3		0
FACU species	15 x 4		60
UPL species	0 x 5		0
Total	101		231
		Prevalence Index:	2.29

Hydrophytic Vegetation Indicators:
_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?
Yes X No

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators	
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_	Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_	Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_	Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_	Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_	Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_	Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	x	Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	x	FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)		
_ Sparsely Vegetated Concave Surface	Other		

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present?
Yes x No

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 2
Client: AEP State: OH Section, Township, Range: Sec S25, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.829667° Long. -82.592922° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Canal silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Zea mays*	30	Y	UPL	5
2. *Brassica rapa*	15	Y	UPL	5
3. *Lamium purpureum*	10	Y	UPL	5
4. *Packera glabella*	10	Y	FACW	2
5. *Allium canadense*	5	N	FACU	4
6. *Stellaria media*	5	N	FACU	4
7.				
8.				
	75	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 6
Percent of dominant species that are OBL, FACW, or FAC: 16.67

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	10 x 2		20
FAC species	0 x 3		0
FACU species	10 x 4		40
UPL species	55 x 5		275
Total	76	Prevalence Index:	336 / 4.42

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks: No soil pit taken, residential area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 71
Client: AEP State: OH Section, Township, Range: Sec S36, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.826230° Long. -82.593620° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Cornus alba*	30	Y	FACW	2
2. *Rubus allegheniensis*	15	Y	FACU	4
3. *Lonicera morrowii*	10	N	FACU	4
4. *Prunus serotina*	5	N	FACU	4
5.				
	60	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Solidago altissima*	25	Y	FACU	4
2. *Epilobium coloratum*	20	Y	OBL	1
3. *Brassica rapa*	10	N	UPL	5
4. *Symphyotrichum lateriflorum*	10	N	FACW	2
5. *Xanthium strumarium*	5	N	FAC	3
6.				
7.				
8.				
	70	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 4
Total number of dominant species across all strata: 9
Percent of dominant species that are OBL, FACW, or FAC: 44.44

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	40	x 2	80
FAC species	5	x 3	15
FACU species	55	x 4	220
UPL species	10	x 5	50
Total	111		366
		Prevalence Index:	3.30

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-12	10YR 4/2	100					SiCL	
12-18	10YR 4/1	100					SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
X High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
X Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	X Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No Depth (inches) 2
Saturation Present? Yes X No Depth (inches) 2

Hydroloy Indicators Present? **Yes X No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 70
Client: AEP State: OH Section, Township, Range: Sec S36, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.824939° Long. -82.594821° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centerburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Setaria faberi*	35	Y	FACU	4
2. *Setaria pumila*	35	Y	FAC	3
3. *Poa pratensis*	20	Y	FAC	3
4. *Zea mays*	10	N	UPL	5
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 50.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	0 x 2		0
FAC species	55 x 3		165
FACU species	35 x 4		140
UPL species	10 x 5		50
Total	101	Prevalence Index:	356 / 3.52

Hydrophytic Vegetation Indicators:
- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-10	10YR 4/2	100					SiCL	
10-18	10YR 5/1	90	10YR 5/6	10	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes X No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 68
Client: AEP State: OH Section, Township, Range: S36, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.821591° Long. -82.598206° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus allegheniensis*	30	Y	FACU	4
2. *Elaeagnus umbellata*	10	Y	UPL	5
3.				
4.				
5.				
	40	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Poa pratensis*	60	Y	FAC	3
2. *Taraxacum officinale*	20	Y	FACU	4
3. *Wisteria frutescens*	10	N	FACW	2
4. *Solidago canadensis*	5	N	FACU	4
5. *Viola renifolia*	3	N	FACW	2
6.	2	N		
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 3
Total number of dominant species across all strata: 7
Percent of dominant species that are OBL, FACW, or FAC: 42.86

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	13	x 2	26
FAC species	60	x 3	180
FACU species	55	x 4	220
UPL species	10	x 5	50
Total	139		477
		Prevalence Index:	3.43

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-15	10YR 4/2	100					SiL	
15-18	10YR 4/4	100					SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 63
Client: AEP State: OH Section, Township, Range: Sec S36, T 16N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.813840° Long. -82.606066° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	100	Y	FACU	4
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	0 x 2		0
FAC species	0 x 3		0
FACU species	100 x 4		400
UPL species	0 x 5		0
Total	101		401
		Prevalence Index:	3.97

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **X** **No**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
								No soil pit, residential

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No**

Remarks: No soil pit was taken; this is a residential area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes No X Depth (inches)
Saturation Present? Yes No X Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 62 A
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.812051 Long. -82.608505 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1. *Acer rubrum*	30	Y	FAC	3
2.				
3.				
4.				
5.				
	30	Total Cover		
Shrub Stratum Plot size: 15'				
1. *Lonicera maackii*	15	Y	UPL	5
2.				
3.				
4.				
5.				
	15	Total Cover		
Herb Stratum Plot size: 5'				
1. *Typha angustifolia*	50	Y	OBL	1
2. *Barbarea vulgaris*	20	Y	FAC	3
3. *Poa pratensis*	20	Y	FAC	3
4. *Prunus serotina*	10	N	FACU	4
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum Plot size: 30'				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 4
Total number of dominant species across all strata: 6
Percent of dominant species that are OBL, FACW, or FAC: 66.67

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	0	x 2	0
FAC species	70	x 3	210
FACU species	10	x 4	40
UPL species	15	x 5	75
Total	96		326
		Prevalence Index:	3.40

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes X No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-15	10YR 4/2	100					SiL	
15-18	10YR 4/4	85	10YR 4/6	15	C	M	SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	X FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes No X Depth (inches)
Saturation Present? Yes X No 15 Depth (inches)

Hydroloy Indicators Present? **Yes X No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 62
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.811394° Long. -82.608382° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes X No

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Cornus racemosa*	50	Y	FAC	3
2.				
3.				
4.				
5.				
	50	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	20	Y	FACU	4
2. *Symphyotrichum lateriflorum*	10	Y	FACW	2
3. *Brassica rapa*	5	N	UPL	5
4.				
5.				
6.				
7.				
8.				
	35	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 50.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	10	x 2	20
FAC species	50	x 3	150
FACU species	20	x 4	80
UPL species	5	x 5	25
Total	86		276
		Prevalence Index:	3.21

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **X** **No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-14	10YR 4/3	100					SiL	
14-18	10YR 4/4	100					SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes X No 7 Depth (inches)
Saturation Present? Yes X No 7 Depth (inches)

Hydroloy Indicators Present? **Yes** **X** **No**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 59
Client: AEP State: OH Section, Township, Range: Sec S1, T 15N, 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.806567° Long. -82.612869° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus allegheniensis*	10	Y	FACU	4
2. *Mentha X rotundifolia*	10	Y	FAC	3
3.				
4.				
5.				
	20	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Setaria faberi*	30	Y	FACU	4
2. *Allium canadense*	20	Y	FACU	4
3. *Apocynum cannabinum*	20	Y	FAC	3
4.				
5.				
6.				
7.				
8.				
	70	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 5
Percent of dominant species that are OBL, FACW, or FAC: 40.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	0	x 2	0
FAC species	30	x 3	90
FACU species	60	x 4	240
UPL species	0	x 5	0
Total	91		331
		Prevalence Index:	3.64

Hydrophytic Vegetation Indicators:
_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3						SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairifeld County Date: 27 March 2024 Data Point: 57
Client: AEP State: OH Section, Township, Range: Sec S2, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.803787 Long. -82.615001 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Bennington silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Elymus virginicus*	50	Y	FACW	2
2.	*Brassica napus*	20	Y	UPL	5
3.	*Setaria faberi*	15	N	FACU	4
4.	*Lamium purpureum*	10	N	UPL	5
5.	*Taraxacum officinale*	5	N	FACU	4
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 50.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	50	x 2	100
FAC species	0	x 3	0
FACU species	20	x 4	80
UPL species	30	x 5	150
Total	100		330
		Prevalence Index:	3.30

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/4	100					Si C L	
4-18	10YR 4/3	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 52
Client: AEP State: OH Section, Township, Range: Sec S11, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.796059 Long. -82.620611 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Rubus allegheniensis*	20	Y	FACU	4
2.					
3.					
4.					
5.					
		20	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Carex vulpinoidea*	40	Y	FACW	2
2.	*Schedonorus arundinaceus*	35	Y	FACU	4
3.	*Cyperus esculentus*	10	N	FACW	2
4.	*Symphyotrichum ericoides*	10	N	FACU	4
5.	*Daucus carota*	5	N	UPL	5
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	50	x 2	100
FAC species	0	x 3	0
FACU species	65	x 4	260
UPL species	5	x 5	25
Total	120		385
		Prevalence Index:	3.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-14	10YR 4/1	100					Si C L	
14-18	10YR 4/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 27 March 2024 Data Point: 51
Client: AEP State: OH Section, Township, Range: Sec S11, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.794865 Long. -82.621345 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Rubus occendentalis*	10	Y	UPL	5
2.					
3.					
4.					
5.					
		10	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Bromus inermis*	30	Y	FACU	4
2.	*Setaria faberi*	30	Y	FACU	4
3.	*Solidago canadensis*	30	Y	FACU	4
4.	*Allium vineale*	5	N	FACU	4
5.					
6.					
7.					
8.					
		95	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	95	x 4	380
UPL species	10	x 5	50
Total	105		430
		Prevalence Index:	4.10

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/1	95	10YR 5/6	5	C	M	Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **x** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 27 March 2024 Data Point: 48
Client: AEP State: OH Section, Township, Range: Sec S11, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.789262 Long. -82.623285 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silty clay loam, 6 to 12 percent slopes, severely eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Rhus typhina*	2	N	UPL	5
2.					
3.					
4.					
5.					
		2	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Solidago canadensis*	40	Y	FACU	4
2.	*Schedonorus arundinaceus*	30	Y	FACU	4
3.	*Setaria faberi*	25	Y	FACU	4
4.	*Daucus carota*	5	N	UPL	5
5.					
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	95	x 4	380
UPL species	7	x 5	35
Total	102		415
		Prevalence Index:	4.07

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 27 March 2024 Data Point: 46
Client: AEP State: OH Section, Township, Range: Sec S11, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.783994 Long. -82.624965 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	40	Y	FACU	4
2. *Lamium purpureum*	30	Y	UPL	5
3. *Stellaria media*	20	N	FACU	4
4. *Taraxacum officinale*	10	N	FACU	4
5. *Trifolium repens*	10	N	FACU	4
6.				
7.				
8.				
	110	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	80	x 4	320
UPL species	30	x 5	150
Total	110		470
		Prevalence Index:	4.27

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

Remarks:

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 27 March 2024 Data Point: 44
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Morines Local Relief Convex
Slope (%): 1-3 Lat. 39.780789 Long. -82.625887 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silty clay loam, 6 to 12 percent slopes, severely eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.	*Juglans nigra*	10	Y	FACU	4
2.					
3.					
4.					
5.					
		10	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Juglans nigra*	30	Y	FACU	4
2.	*Rosa multiflora*	25	Y	FACU	4
3.	*Rubus caesius*	20	Y	FACU	4
4.					
5.					
		75	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Bromus inermis*	50	Y	FACU	4
2.	*Conium maculatum*	20	Y	FACW	2
3.	*Lilium lancifolium*	20	Y	UPL	5
4.	*Allium vineale*	10	N	FACU	4
5.					
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 7
Percent of dominant species that are OBL, FACW, or FAC: 14.29

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	20	x 2	40
FAC species	0	x 3	0
FACU species	145	x 4	580
UPL species	20	x 5	100
Total	185		720
		Prevalence Index:	3.89

Hydrophytic Vegetation Indicators:
___ Rapid Test for Hydrophytic Veg.
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0*
___ Morphological Adaptations*
___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/3	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5cm Mucky Peat or Peat
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Very Shallow Dark Surface (F12)
___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface
___ Water Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soil (C6)
___ Thin Muck Surface (C7)
___ Guage or Well Data (D9)
___ Other

Secondary Indicators

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 42
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Till Plains Local Relief Convex
Slope (%): Lat. 39.776710° Long. -82.627371° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	50	Y	FACU	4
2. *Trifolium repens*	30	Y	FACU	4
3. *Plantago lanceolata*	15	N	FACU	4
4. *Taraxacum officinale*	5	N	FACU	4
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 25.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	0 x 2		0
FAC species	0 x 3		0
FACU species	100 x 4		400
UPL species	0 x 5		0
Total	101	Prevalence Index:	401 / 3.97

Hydrophytic Vegetation Indicators:
___ Rapid Test for Hydrophytic Veg.
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0*
___ Morphological Adaptations*
___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	Redox Features %	Type*	Loc**	Texture	Remarks
								No soil pit taken, pasture

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histosol (A1)	___ Sandy Mucky Mineral (S1)	___ Redox Dark Surface (F6)
___ Histic Epipedon (A2)	___ 5cm Mucky Peat or Peat	___ Depleted Dark Surface (F7)
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Coast Prairie Redox (A16)
___ 2 cm Muck (A10)	___ Loamy Mucky Mineral (F1)	___ Iron-Manganese Masses (F12)
___ Depleted Below Dark Surface (A11)	___ Loamy Gleyed Matrix (F2)	___ Very Shallow Dark Surface (F12)
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No**

Remarks: No soil pit taken, pasture land with farm animals present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soil (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Guage or Well Data (D9)	
___ Sparsely Vegetated Concave Surface	___ Other	

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 41
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Local Relief
Slope (%): 5-8 Lat. 39.772667° Long. '-82.628789° Datum NAD83 NWI Class:
Soil Map Unit Name: Amanda silty clay loam, 6 to 12 percent slopes, severely eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rhamnus cathartica*	30	Y	FAC	3
2. *Ailanthus altissima*	15	Y	FACU	4
3. *Sambucus nigra*	10	N	FAC	3
4. *Elaeagnus angustifolia*	10	N	FACU	4
5.				
	65	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	30	Y	FACU	4
2. *Fragaria vesca*	20	Y	UPL	5
3. *Verbesina alternifolia*	15	N	FACW	2
4. *Carex frankii*	10	N	OBL	1
5. *Elymus canadensis*	10	N	FACU	4
6. *Verbascum thapsus*	10	N	UPL	5
7. *Arctium minus*	5	N	FACU	4
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 5
Total number of dominant species across all strata: 11
Percent of dominant species that are OBL, FACW, or FAC: 45.45

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	15	x 2	30
FAC species	40	x 3	120
FACU species	70	x 4	280
UPL species	30	x 5	150
Total	156		581
		Prevalence Index:	3.72

Hydrophytic Vegetation Indicators:
Rapid Test for Hydrophytic Veg.
Dominance Test is >50%
Prevalence Index is ≤3.0*
Morphological Adaptations*
Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **X**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-8	10YR 4/2	95	10YR 5/4	5	C	M	SiL	
8-18	10YR 4/2	100					SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	X Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **X** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 40
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Moraines Local Relief Convex
Slope (%): Lat. 39.771423° Long. -82.629211° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silty clay loam, 6 to 12 percent slopes, severely eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes	No	X
Hydric Soil Present?	Yes	No	X
Wetland Hydrology Present?	Yes	No	X

Is the DP within a Wetland? **Yes** **No** **X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rhamnus cathartica*	40	Y	FAC	3
2.				
3.				
4.				
5.				
	40	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	80	Y	FACU	4
2. *Conium maculatum*	10	N	FACW	2
3.				
4.				
5.				
6.				
7.				
8.				
	90	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 3
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	1	x 1	1
FACW species	10	x 2	20
FAC species	40	x 3	120
FACU species	80	x 4	320
UPL species	0	x 5	0
Total	131		461

Prevalence Index: 3.52

Hydrophytic Vegetation Indicators:
- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **X**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	%	Type*	Loc**	Texture	Remarks
0-3	10YR 3/3	100						Impenetrable rock layer

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **X**

Remarks: Impenetrable rock layer under 3"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 27 March 2024 Data Point: 39
Client: AEP State: OH Section, Township, Range: Sec S14, T 15N, R 19W
Investigator(s): L. Vine, E.Holt Landform Till Plains Local Relief Convex
Slope (%): Lat. 39.770633° Long. -82.629435° Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda-Loudonville complex, 6 to 12 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No X

Is the DP within a Wetland? **Yes No X**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	80	Y	FACU	4
2. *Allium canadense*	10	N	FACU	4
3. *Trifolium repens*	10	N	FACU	4
4.				
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	1 x 1		1
FACW species	0 x 2		0
FAC species	0 x 3		0
FACU species	100 x 4		400
UPL species	0 x 5		0
Total	101		401
		Prevalence Index:	3.97

Hydrophytic Vegetation Indicators:
_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No X**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	Redox Features %	Redox Features Type*	Redox Features Loc**	Texture	Remarks
								No soil pit, residential

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_ Histosol (A1)	_ Sandy Mucky Mineral (S1)	_ Redox Dark Surface (F6)
_ Histic Epipedon (A2)	_ 5cm Mucky Peat or Peat	_ Depleted Dark Surface (F7)
_ Black Histic (A3)	_ Sandy Gleyed Matrix (S4)	_ Redox Depressions (F8)
_ Hydrogen Sulfide (A4)	_ Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
_ Stratified Layers (A5)	_ Stripped Matrix (S6)	_ Coast Prairie Redox (A16)
_ 2 cm Muck (A10)	_ Loamy Mucky Mineral (F1)	_ Iron-Manganese Masses (F12)
_ Depleted Below Dark Surface (A11)	_ Loamy Gleyed Matrix (F2)	_ Very Shallow Dark Surface (F12)
_ Thick Dark Surface (A12)	_ Depleted Matrix (F3)	_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No**

Remarks: No soil pit taken, residential area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No Depth (inches)
Water Table Present? Yes No Depth (inches)
Saturation Present? Yes No Depth (inches)

Hydroloy Indicators Present? **Yes No X**

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
No hydric indicators

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 28 March 2024 Data Point: 36
Client: AEP State: OH Section, Township, Range: Sec S23, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.764870 Long. -82.631439 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silt loam, 6 to 12 percent slopes,eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Dactylis glomerata*	80	Y	FACU	4
2.	*Achillea millefolium*	10	N	FACU	4
3.	*Trifolium repens*	10	N	FACU	4
4.					
5.					
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0 x 1		0
FACW species	0 x 2		0
FAC species	0 x 3		0
FACU species	100 x 4		400
UPL species	0 x 5		0
Total	100		400
		Prevalence Index:	4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 28 March 2024 Data Point: 34
Client: AEP State: OH Section, Township, Range: Sec S23, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.759099 Long. -82.633227 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Amanda silt loam, 6 to 12 percent slopes,eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Glycine max residue*	50	Y	UPL 5
2. *Stellaria media*	40	Y	FACU 4
3. *Lamium purpureum*	5	N	UPL 5
4.			
5.			
6.			
7.			
8.			
	95	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	40	x 4	160
UPL species	55	x 5	275
Total	95		435
		Prevalence Index:	4.58

Hydrophytic Vegetation Indicators:
_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 28 March 2024 Data Point: 32
Client: AEP State: OH Section, Township, Range: Sec S26, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Concave
Slope (%): 1-3 Lat. 39.754944 Long. -82.634647 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Marengo clay loam
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes x No
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks: **Stormwater basin overflow area**

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	100	Y	FACW 2
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 100.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	100	x 2	200
FAC species	0	x 3	0
FACU species	0	x 4	0
UPL species	0	x 5	0
Total	100		200

Prevalence Index: 2.00

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- x Dominance Test is >50%
- x Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **x** **No**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/1	100					Si C L	
4-8	10YR 3/1	95	10YR 5/6	5	C	M	Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type: **Rip-rap**
Depth (Inches): 8

Hydric Soil Present? **Yes** **x** **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	**Secondary Indicators**
Surface Water (A1)	Water Stained Leaves (B9)
High Water Table (A2)	Aquatic Fauna (B13)
Saturation (A3)	True Aquatic Plants (B14)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots
Drift Deposits (B3)	Presence of Reduced Iron (C4)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)
Iron Deposits (B5)	Thin Muck Surface (C7)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)
Sparsely Vegetated Concave Surface	Other

Field Observations:	Surface Water Present?	Yes	No	x	Depth (inches)
	Water Table Present?	Yes	No	x	Depth (inches)
	Saturation Present?	Yes	No	x	Depth (inches)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- x FAC-Neutral Test (D5)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 28 March 2024 Data Point: 32A
Client: AEP State: OH Section, Township, Range: Sec S26, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 2-5 Lat. 39.754906 Long. -82.634636 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Marengo clay loam
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Sorghum halepense*	60	Y	FACU	4
2.	*Ambrosia trifida*	10	N	FAC	3
3.	*Conium maculatum*	10	N	FACW	2
4.	*Solidago canadensis*	10	N	FACU	4
5.	*Vernonia gigantea*	10	N	FAC	3
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	10	x 2	20
FAC species	20	x 3	60
FACU species	70	x 4	280
UPL species	0	x 5	0
Total	100		360
		Prevalence Index:	3.60

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Veg.
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0*
___ Morphological Adaptations*
___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/1	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5cm Mucky Peat or Peat
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Very Shallow Dark Surface (F12)
___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soil (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Guage or Well Data (D9)	
___ Sparsely Vegetated Concave Surface	___ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 28 March 2024 Data Point: 31A
Client: AEP State: OH Section, Township, Range: Sec S26, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.753261 Long. -82.635187 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Schedonorus arundinaceus*	50	Y	FACU 4
2. *Poa pratensis*	45	Y	FAC 3
3. *Lamium purpureum*	5	N	UPL 5
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 50.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	45	x 3	135
FACU species	50	x 4	200
UPL species	5	x 5	25
Total	100		360
		Prevalence Index:	3.60

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Veg.
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0*
___ Morphological Adaptations*
___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/3	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5cm Mucky Peat or Peat
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Very Shallow Dark Surface (F12)
___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
___ Surface Water (A1)	___ Water Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ True Aquatic Plants (B14)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soil (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Guage or Well Data (D9)
___ Sparsely Vegetated Concave Surface	___ Other

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Date: 28 March 2024 Data Point: 26
Client: AEP State: OH Section, Township, Range: Sec 26, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Moraines Local Relief Convex
Slope (%): 1-3 Lat. 39.743462 Long. -82.638348 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Centersburg silt loam, 2 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Pyrus calleryana*	40	Y	UPL	5
2. *Lonicera maackii*	10	Y	UPL	5
3.				
4.				
5.				
	50	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Stellaria media*	50	Y	FACU	4
2. *Euonymus fortunei*	20	Y	UPL	5
3. *Allium vineale*	10	N	FACU	4
4. *Cirsium arvense*	10	N	FACU	4
5. *Digitaria sanguinalis*	5	N	FACU	4
6. *Lamium purpureum*	5	N	UPL	5
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	75	x 4	300
UPL species	75	x 5	375
Total	150		675
		Prevalence Index:	4.50

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth (inches)	Matrix Color	Matrix %	Redox Features Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					SiCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 23
Client: AEP State: OH Section, Township, Range: Sec S35, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.737525 Long. -82.641287 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Fox silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Schedonorus arundinaceus*	40	Y	FACU	4
2. *Poa pratensis*	30	Y	FAC	3
3. *Trifolium repens*	20	Y	FACU	4
4. *Digitaria sanguinalis*	5	N	FACU	4
5. *Plantago lanceolata*	5	N	FACU	4
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	30	x 3	90
FACU species	70	x 4	280
UPL species	0	x 5	0
Total	100		370
		Prevalence Index:	3.70

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/3	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)
_ High Water Table (A2)	_ Aquatic Fauna (B13)
_ Saturation (A3)	_ True Aquatic Plants (B14)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)
_ Sparsely Vegetated Concave Surface	_ Other

Secondary Indicators
_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 22
Client: AEP State: OH Section, Township, Range: Sec S 34, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.735590 Long. -82.641314 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Fox silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Pyrus calleryana*	40	Y	UPL	5
2.				
3.				
4.				
5.				
	40	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Andropogon virginicus*	40	Y	FACU	4
2. *Setaria pumila*	30	Y	FAC	3
3. *Verbena urticifolia*	10	N	FAC	3
4. *Daucus carota*	5	N	UPL	5
5. *Solidago canadensis*	5	N	FACU	4
6.				
7.				
8.				
	90	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	40	x 3	120
FACU species	45	x 4	180
UPL species	45	x 5	225
Total	130		525
		Prevalence Index:	4.04

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-7	10YR 3/3	100					Si C L	
7-18	10YR 4/3	100					L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)
_ High Water Table (A2)	_ Aquatic Fauna (B13)
_ Saturation (A3)	_ True Aquatic Plants (B14)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)
_ Sparsely Vegetated Concave Surface	_ Other

Field Observations:	Surface Water Present?	Yes	No x	Depth (inches)	
	Water Table Present?	Yes	No x	Depth (inches)	
	Saturation Present?	Yes	No x	Depth (inches)	

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 20
Client: AEP State: OH Section, Township, Range: Sec S35, T 15N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Flood Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.731196 Long. -82.636576 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Glycine max residue*	40	Y	UPL	5
2. *Stellaria media*	40	Y	FACU	4
3. *Lamium purpureum*	20	Y	UPL	5
4.				
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	40	x 4	160
UPL species	60	x 5	300
Total	100		460
		Prevalence Index:	4.60

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Veg.
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0*
___ Morphological Adaptations*
___ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5cm Mucky Peat or Peat
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Very Shallow Dark Surface (F12)
___ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface
___ Water Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soil (C6)
___ Thin Muck Surface (C7)
___ Guage or Well Data (D9)
___ Other

Secondary Indicators

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 15
Client: AEP State: OH Section, Township, Range: Sec S2, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Flood Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.725039 Long. -82.632003 Datum NAD83 NWI Class: N/A
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.	*Sambucus canadensis*	2	N	FACU	4
2.					
3.					
4.					
5.					
		2	Total Cover		
Herb Stratum	**Plot size: 30'**				
1.	*Poa pratensis*	40	Y	FAC	3
2.	*Conium maculatum*	20	Y	FACW	2
3.	*Echinacea pallida*	20	Y	UPL	5
4.	*Phalaris arundinacea*	10	N	FACW	2
5.					
6.					
7.					
8.					
		90	Total Cover		
Woody Vine Stratum	**Plot size: 5'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet
Number of dominant species that are OBL, FACW, or FAC: 2
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 66.67

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	30	x 2	60
FAC species	40	x 3	120
FACU species	2	x 4	8
UPL species	20	x 5	100
Total	92		288
		Prevalence Index:	3.13

Hydrophytic Vegetation Indicators:
Rapid Test for Hydrophytic Veg.
x Dominance Test is >50%
Prevalence Index is ≤3.0*
Morphological Adaptations*
Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **x** **No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Histosol (A1)	Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Histic Epipedon (A2)	5cm Mucky Peat or Peat	Depleted Dark Surface (F7)
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	**Indicators for Problematic Hydric Soils**
Stratified Layers (A5)	Stripped Matrix (S6)	Coast Prairie Redox (A16)
2 cm Muck (A10)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (F12)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	FAC-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Guage or Well Data (D9)	
Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 13
Client: AEP State: OH Section, Township, Range: Sec S2, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.722039 Long. -82.634875 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Urban land-Bennington complex, 0 to 6 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Shrub Stratum	**Plot size: 15'**				
1.					
2.					
3.					
4.					
5.					
		0	Total Cover		
Herb Stratum	**Plot size: 5'**				
1.	*Poa pratensis*	60	Y	FAC	3
2.	*Glechoma hederacea*	20	Y	FACU	4
3.	*Trifolium repens*	20	Y	FACU	4
4.					
5.					
6.					
7.					
8.					
		100	Total Cover		
Woody Vine Stratum	**Plot size: 30'**				
1.					
2.					
		0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	60	x 3	180
FACU species	40	x 4	160
UPL species	0	x 5	0
Total	100		340
		Prevalence Index:	3.40

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Veg.
- Dominance Test is >50%
- Prevalence Index is ≤3.0*
- Morphological Adaptations*
- Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5cm Mucky Peat or Peat
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (F12)
- Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface
- Water Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soil (C6)
- Thin Muck Surface (C7)
- Guage or Well Data (D9)
- Other

Secondary Indicators

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 11
Client: AEP State: OH Section, Township, Range: Sec S3, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.718202 Long. -82.639982 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Marengo clay loam
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Dactylis glomerata*	75	Y	FACU 4
2. *Schedonorus arundinaceus*	20	Y	FACU 4
3. *Lamium purpureum*	5	N	UPL 5
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	95	x 4	380
UPL species	5	x 5	25
Total	100		405
		Prevalence Index:	4.05

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 8A
Client: AEP State: OH Section, Township, Range: Sec S3, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains1 Local Relief Convex
Slope (%): 3-5 Lat. 39.714393 Long. -82.641548 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Amanda silt loam, 12 to 20 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Sassafras albidum*	75	Y	FACU	4
2. *Rosa multiflora*	10	N	FACU	4
3. *Rubus allegheniensis*	5	N	FACU	4
4. *Rubus occendentalis*	5	N	UPL	5
5.				
	95	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Dactylis glomerata*	50	Y	FACU	4
2. *Geum canadense*	20	Y	FAC	3
3. *Alliaria petiolata*	10	N	FAC	3
4.				
5.				
6.				
7.				
8.				
	80	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 3
Percent of dominant species that are OBL, FACW, or FAC: 33.33

Prevalence Index Worksheet

Total % cover of:			
OBL species	0 x 1		0
FACW species	0 x 2		0
FAC species	30 x 3		90
FACU species	140 x 4		560
UPL species	5 x 5		25
Total	175	Prevalence Index:	675 / 3.86

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-8	10YR 3/2	100					Si C L	
8-18	10YR 4/3	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 7
Client: AEP State: OH Section, Township, Range: Sec S3, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.712451 Long. -82.641544 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Amanda silt loam, 6 to 12 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Rubus occendentalis*	10	Y	UPL	5
2. *Rosa multiflora*	3	N	FACU	4
3.				
4.				
5.				
	13	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Dactylis glomerata*	35	Y	FACU	4
2. *Panicum virgatum*	30	Y	FAC	3
3. *Solidago canadensis*	20	Y	FACU	4
4. *Schedonorus arundinaceus*	10	N	FACU	4
5. *Taraxacum officinale*	5	N	FACU	4
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 4
Percent of dominant species that are OBL, FACW, or FAC: 25.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	30	x 3	90
FACU species	73	x 4	292
UPL species	10	x 5	50
Total	113		432
		Prevalence Index:	3.82

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/3	100					Si L	
4-18	10YR 4/4	100					Si C L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)

_ Surface Water (A1)
_ High Water Table (A2)
_ Saturation (A3)
_ Water Marks (B1)
_ Sediment Deposits (B2)
_ Drift Deposits (B3)
_ Algal Mat or Crust (B4)
_ Iron Deposits (B5)
_ Inundation Visible on Aerial Imagery (B7)
_ Sparsely Vegetated Concave Surface
_ Water Stained Leaves (B9)
_ Aquatic Fauna (B13)
_ True Aquatic Plants (B14)
_ Hydrogen Sulfide Odor (C1)
_ Oxidized Rhizospheres on Living Roots
_ Presence of Reduced Iron (C4)
_ Recent Iron Reduction in Tilled Soil (C6)
_ Thin Muck Surface (C7)
_ Guage or Well Data (D9)
_ Other

Secondary Indicators

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 5A
Client: AEP State: OH Section, Township, Range: Sec S10, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.707972 Long. -82.640540 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Amanda silt loam, 6 to 12 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum	Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Shrub Stratum	**Plot size: 15'**			
1.				
2.				
3.				
4.				
5.				
		0	Total Cover	
Herb Stratum	**Plot size: 5'**			
1.	*Zea mays residue*	60	Y	UPL 5
2.	*Stellaria media*	20	Y	FACU 4
3.	*Lamium purpureum*	10	N	UPL 5
4.				
5.				
6.				
7.				
8.				
		90	Total Cover	
Woody Vine Stratum	**Plot size: 30'**			
1.				
2.				
		0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 2
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	0	x 2	0
FAC species	0	x 3	0
FACU species	20	x 4	80
UPL species	70	x 5	350
Total	90		430
		Prevalence Index:	4.78

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/4	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)		Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 3A
Client: AEP State: OH Section, Township, Range: Sec S10, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Till Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.704089 Long. -82.639314 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Amanda silt loam, 6 to 12 percent slopes, eroded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes No x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: 5')			
1. *Schedonorus arundinaceus*	100	Y	FACU 4
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	Total Cover	

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0
Total number of dominant species across all strata: 1
Percent of dominant species that are OBL, FACW, or FAC: 0.00

Prevalence Index Worksheet

Total % cover of:		
OBL species	0 x 1	0
FACW species	0 x 2	0
FAC species	0 x 3	0
FACU species	100 x 4	400
UPL species	0 x 5	0
Total	100	400
	Prevalence Index:	4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes No x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 4/4	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes No x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)
_ High Water Table (A2)	_ Aquatic Fauna (B13)
_ Saturation (A3)	_ True Aquatic Plants (B14)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)
_ Sparsely Vegetated Concave Surface	_ Other

Field Observations:	Surface Water Present?	Yes	No x	Depth (inches)	
	Water Table Present?	Yes	No x	Depth (inches)	
	Saturation Present?	Yes	No x	Depth (inches)	

_ Surface Soil Cracks (B6)
_ Drainage Patterns (B10)
_ Dry-Season Water Table (C2)
_ Crayfish Burrows (C8)
_ Saturation Visible on Aerial Imagery (C9)
_ Stunted or Stressed Plants (D1)
_ Geomorphic Position (D2)
_ FAC-Neutral Test (D5)

Hydroloy Indicators Present? **Yes No x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 1A
Client: AEP State: OH Section, Township, Range: Sec S10, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Flood Plains Local Relief Convex
Slope (%): 1-3 Lat. 39.701956 Long. -82.638831 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Aetna silt loam, occasionally flooded
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No x
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	
1. *Juglans nigra*	20	Y	FACU	4
2. *Robinia pseudoacacia*	10	Y	FACU	4
3.				
4.				
5.				
	30	Total Cover		
Shrub Stratum Plot size: 15'				
1. *Robinia pseudoacacia*	30	Y	FACU	4
2. *Juglans nigra*	20	Y	FACU	4
3.				
4.				
5.				
	50	Total Cover		
Herb Stratum Plot size: 5'				
1. *Conium maculatum*	70	Y	FACW	2
2. *Allium vineale*	10	N	FACU	4
3. *Lamium purpureum*	10	N	UPL	5
4. *Symphyotrichum ericoides*	10	N	FACU	4
5.				
6.				
7.				
8.				
	100	Total Cover		
Woody Vine Stratum Plot size: 30'				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1
Total number of dominant species across all strata: 5
Percent of dominant species that are OBL, FACW, or FAC: 20.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	70	x 2	140
FAC species	0	x 3	0
FACU species	100	x 4	400
UPL species	10	x 5	50
Total	180		590
		Prevalence Index:	3.28

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
_ Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **No** **x**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/3	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
_ Loamy Gleyed Matrix (F2)
_ Depleted Matrix (F3)
_ Redox Dark Surface (F6)
_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
_ Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	_ Crayfish Burrows (C8)
_ Sediment Deposits (B2)	_ Oxidized Rhizospheres on Living Roots	_ Saturation Visible on Aerial Imagery (C9)
_ Drift Deposits (B3)	_ Presence of Reduced Iron (C4)	_ Stunted or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	_ FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	_ Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

WETLAND DETERMINATION FORM-MIDWEST REGION

Site: W. Lancaster-S. Baltimore-W. Millersport City/County: Fairfield County Date: 28 March 2024 Data Point: 1
Client: AEP State: OH Section, Township, Range: Sec S10, T 14N, R 19W
Investigator(s): N. Houk, N. Barnett Landform Terrances Local Relief Convex
Slope (%): 1-3 Lat. 39.701956 Long. -82.638831 Datum NAD83 NWI Class: NA
Soil Map Unit Name: Thackery silt loam, 0 to 2 percent slopes
Climatic/hydrologic conditions typical for time of year? Y/N Y
Vegetation N , Soil N or Hydrology N significantly disturbed
Vegetation N , Soil N or Hydrology N naturally problematic
Are Normal Circumstances Present? Yes x No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes No x
Wetland Hydrology Present? Yes No x

Is the DP within a Wetland? **Yes** **No** **x**

Remarks:

VEGETATION

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Status	
1.				
2.				
3.				
4.				
5.				
	0	Total Cover		
Shrub Stratum (Plot size: 15')				
1. *Robinia pseudoacacia*	80	Y	FACU	4
2. *Rubus allegheniensis*	5	N	FACU	4
3.				
4.				
5.				
	85	Total Cover		
Herb Stratum (Plot size: 5')				
1. *Conium maculatum*	20	Y	FACW	2
2. *Phalaris arundinacea*	20	Y	FACW	2
3. *Poa pratensis*	20	Y	FAC	3
4. *Solidago canadensis*	20	Y	FACU	4
5. *Alliaria petiolata*	10	N	FAC	3
6.				
7.				
8.				
	90	Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.				
2.				
	0	Total Cover		

Remarks:

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 3
Total number of dominant species across all strata: 5
Percent of dominant species that are OBL, FACW, or FAC: 60.00

Prevalence Index Worksheet

Total % cover of:			
OBL species	0	x 1	0
FACW species	40	x 2	80
FAC species	30	x 3	90
FACU species	105	x 4	420
UPL species	0	x 5	0
Total	175		590

Prevalence Index: 3.37

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Veg.
x Dominance Test is >50%
_ Prevalence Index is ≤3.0*
_ Morphological Adaptations*
_ Problematic Hydrophytic Vegetation*

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? **Yes** **x** **No**

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-18	10YR 3/2	100					Si L	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: 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)
_ Depleted Below Dark Surface (A11)
_ Thick Dark Surface (A12)
_ Sandy Mucky Mineral (S1)
_ 5cm Mucky Peat or Peat
_ Sandy Gleyed Matrix (S4)
_ Sandy Redox (S5)
_ Stripped Matrix (S6)
_ Loamy Mucky Mineral (F1)
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_ Depleted Dark Surface (F7)
_ Redox Depressions (F8)

Indicators for Problematic Hydric Soils

_ Coast Prairie Redox (A16)
_ Iron-Manganese Masses (F12)
_ Very Shallow Dark Surface (F12)
_ Other

Restrictive Layer (if observed): Type:
Depth (Inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)	Secondary Indicators
_ Surface Water (A1)	_ Water Stained Leaves (B9)	_ Surface Soil Cracks (B6)
_ High Water Table (A2)	_ Aquatic Fauna (B13)	_ Drainage Patterns (B10)
_ Saturation (A3)	_ True Aquatic Plants (B14)	_ Dry-Season Water Table (C2)
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_ Algal Mat or Crust (B4)	_ Recent Iron Reduction in Tilled Soil (C6)	_ Geomorphic Position (D2)
_ Iron Deposits (B5)	_ Thin Muck Surface (C7)	x FAC-Neutral Test (D5)
_ Inundation Visible on Aerial Imagery (B7)	_ Guage or Well Data (D9)	
_ Sparsely Vegetated Concave Surface	Other	

Field Observations: Surface Water Present? Yes No x Depth (inches)
Water Table Present? Yes No x Depth (inches)
Saturation Present? Yes No x Depth (inches)

Hydroloy Indicators Present? **Yes** **No** **x**

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

Appendix D

ORAM Forms

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	2	
	Metric 2: Buffers and surrounding land use	4	
	Metric 3: Hydrology	17	
	Metric 4: Habitat	15.5	
	Metric 5: Special Wetland Communities	0	
	Metric 6: Plant communities, interspersion, microtopography	5	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	43.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☒ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☐ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: Lancaster (WL-12N-PEM)	Rater(s): NSB	Date: 3/27/2024

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
2	2

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☒ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☐ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
4	6

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☒ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☒ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
17	23

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☐ Other groundwater (3pts)
- ☒ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☐ Between stream/lake and other human use (1pts)
- ☒ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☒ Seasonally inundated (2pts)
- ☐ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☒ None or none apparent (12pts)
- ☐ Recovered (7pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☐	Tile	☐	Filing/grading
☐	Dike	☐	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
15.5	38.5

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☒ Recovered (3pts)
- ☐ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☒ Good (5pts)
- ☐ Moderately good (4pts)
- ☐ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☒ None or none apparent (9pts)
- ☒ Recovered (6pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Mowing	☐	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☐	Clear-cutting	☐	Sedimentation
☐	Selective cutting	☐	Dredging
☐	Woody debris removal	☒	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

38.5

Subtotal this page

Site: Lancaster (WL-12N-PEM)	Rater(s): NSB	Date: 3/27/2024

38.5
Subtotal first page

0	38.5
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☐ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

5	43.5
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

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
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☐ Moderately low (2pts)
- ☒ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent >5% cover (0pts)
- ☐ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

2	Vegetated hummocks/tussocks
0	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

43.5	GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	2
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	1
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☒
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☐
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	3
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☒
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☐
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☒

6

Subtotal

6

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	1
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☐
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	1
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☐
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☒
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	2
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☒
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☐

11

Subtotal

11

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations.

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☐	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 12 since there are no or no apparent modifications. X	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 12
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☒
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

23

Subtotal

23

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils.

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☒ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance. 3	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 3
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☒
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 5

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☒
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☐
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☐
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to not be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

31

Subtotal

31

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.**

Check all that are observed present in or near the wetland

☐	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☐	Clear cutting	☐	Dredging
☐	Selective cutting	☒	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5 X

Select one or double check adjoining number and average the score.		**score** 7.5
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☒
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☒
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☐
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☐

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☐	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

38.5

Subtotal

38.5

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	2
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	0
☐	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	2
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	0
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	0
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	0
☐	**Other** (See User's Manual)	

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

40.5

Subtotal

40.5

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		1
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☐
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☐
1pt	LOW. Wetland has a low degree of interspersion	☒
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		0
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☐
0pts	Nearly absent. <5% areal cover of invasive species	☒
1pt	Absent	☐

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	2
Vegetated hummocks and tussocks.	☒
Coarse woody debris >15cm (6in) diameter	☐
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

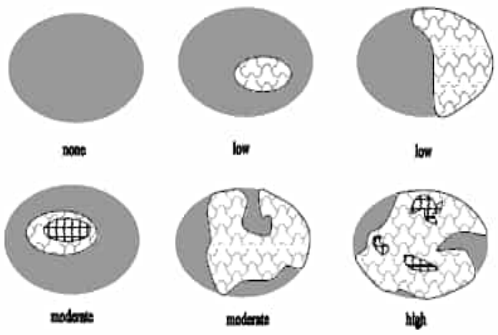

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

43.5

GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☒ YES ☐ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	1	
	Metric 2: Buffers and surrounding land use	1	
	Metric 3: Hydrology	4	
	Metric 4: Habitat	3	
	Metric 5: Special Wetland Communities	-10	
	Metric 6: Plant communities, interspersion, microtopography	3	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	2	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☒ YES Wetland is categorized as a Category 1 wetland	☐ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☒ YES Wetland is assigned to the appropriate category based on the scoring range	☐ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☐ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☒ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☒ Category 1	☐ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: Lancaster (WL-10N-PEM)	Rater(s): NSB	Date: 3/27/2024

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
1	1

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☐ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☒ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
1	2

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☒ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☒ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☐ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
4	6

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☐ Other groundwater (3pts)
- ☒ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☐ Between stream/lake and other human use (1pts)
- ☐ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☐ Seasonally inundated (2pts)
- ☒ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12pts)
- ☐ Recovered (7pts)
- ☐ Recovering (3pts)
- ☒ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☐	Tile	☐	Filing/grading
☐	Dike	☒	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
3	9

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☐ Recovered (3pts)
- ☐ Recovered (2pts)
- ☒ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☐ Moderately good (4pts)
- ☐ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☒ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☐ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☐ Recovering (3pts)
- ☒ Recent or no recovery (1pts)

Check all disturbances observed

☒	Mowing	☐	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☐	Clear-cutting	☐	Sedimentation
☐	Selective cutting	☐	Dredging
☐	Woody debris removal	☒	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

9

Subtotal this page

Site: Lancaster (WL-10N-PEM)	Rater(s): NSB	Date: 3/27/2024

9

Subtotal first page

-10	-1
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☒ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

3	2
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

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
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☐ Moderately low (2pts)
- ☒ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent >5% cover (0pts)
- ☒ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
0	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

2	GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	1
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	0
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☐
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☒
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	1
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☐
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☐
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☒

2

Subtotal

2

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	1
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☐
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	0
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☐
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☐
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	1
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☐
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☒

5

Subtotal

5

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations.

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☒	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance. X	**NO** Assign a score of 12 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 1
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☒

6

Subtotal

6

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils.

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☒ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 1
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☒

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 1

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☐
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☐
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to <u>not</u> be a good example of its type or class because of past or present disturbances, successional state, etc.	☒

8

Subtotal

8

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.**

Check all that are observed present in or near the wetland

☒	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☐	Clear cutting	☐	Dredging
☐	Selective cutting	☒	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance. X	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 1
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☐
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☐
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☒

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☒	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

-1

Subtotal

-1

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	1
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	0
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	1
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	0
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	0
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	0
☐	**Other** (See User's Manual)	

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

0

Subtotal

0

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		1
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☐
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☐
1pt	LOW. Wetland has a low degree of interspersion	☒
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		1
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☐
0pts	Nearly absent. <5% areal cover of invasive species	☐
1pt	Absent	☒

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	0
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☐
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

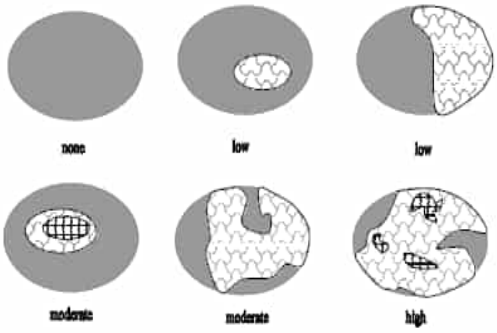

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

2

GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	1	
	Metric 2: Buffers and surrounding land use	2	
	Metric 3: Hydrology	16	
	Metric 4: Habitat	7	
	Metric 5: Special Wetland Communities	-10	
	Metric 6: Plant communities, interspersion, microtopography	2	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	18	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☐ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☐ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☒ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☒ Category 1	☐ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: West Lancaster - WL-5-PEM	Rater(s): E. Holt, L. Vine	Date: 3/27/24

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
1	1

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☐ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☒ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
1	2

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☐ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☒ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☐ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
6	8

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☐ Other groundwater (3pts)
- ☐ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☐ Between stream/lake and other human use (1pts)
- ☐ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☒ Seasonally inundated (2pts)
- ☐ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12pts)
- ☐ Recovered (7pts)
- ☒ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☐	Tile	☐	Filing/grading
☐	Dike	☐	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
9	17

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☒ Recovered (3pts)
- ☐ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☐ Moderately good (4pts)
- ☒ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☐ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☒ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☒	Mowing	☐	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☒	Clear-cutting	☐	Sedimentation
☐	Selective cutting	☐	Dredging
☐	Woody debris removal	☒	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

17

Subtotal this page

Site: West Lancaster - WL-5-PEM	Rater(s): E. Holt, L. Vine	Date: 3/27/24

17

Subtotal first page

-10	7
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☒ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

14	21
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

0	Aquatic Bed
3	Emergent
1	Shrub
0	Forest
0	Mudflats
0	Open Water
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☒ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☐ Moderately low (2pts)
- ☐ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent >5% cover (0pts)
- ☐ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
1	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

21	GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	2
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☐
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☒
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☐
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☐
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☒

3

Subtotal

3

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	1
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☐
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	1
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☒
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☐
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	2
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☒
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☐

8

Subtotal

8

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations. 12

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☐	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 12 since there are no or no apparent modifications. 12	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 3
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☒
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

22

Subtotal

22

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils. 2

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☒ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance. 2	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 2
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☒
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 3

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☐
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☒
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to not be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

29

Subtotal

29

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.** 3

Check all that are observed present in or near the wetland

☒	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☒	Clear cutting	☐	Dredging
☐	Selective cutting	☒	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance. 3	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 3
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☐
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☒
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☐

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☒	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

25

Subtotal

25

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	4
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	0
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	3
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	1
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	0
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	0
☐	**Other** (See User's Manual)	0

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

29

Subtotal

29

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		3
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☒
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☐
1pt	LOW. Wetland has a low degree of interspersion	☐
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		0
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☐
0pts	Nearly absent. <5% areal cover of invasive species	☒
1pt	Absent	☐

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	0
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☐
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

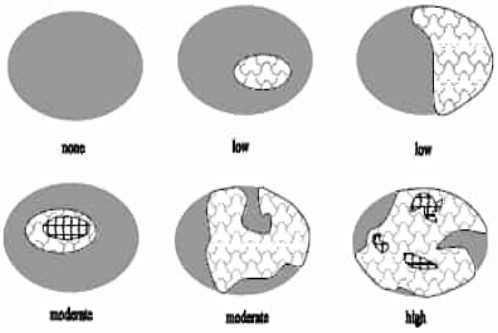

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

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GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	1	
	Metric 2: Buffers and surrounding land use	1	
	Metric 3: Hydrology	10	
	Metric 4: Habitat	7	
	Metric 5: Special Wetland Communities	-10	
	Metric 6: Plant communities, interspersion, microtopography	4	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	13	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☐ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☒ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☒ Category 1	☐ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: West Lancaster - WL-68-PEM	Rater(s): E. Holt	Date: 3/27/24

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☐ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☒ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☐ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☒ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☐ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☒ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

18	22
Max 30 pts.	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☒ Other groundwater (3pts)
- ☒ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☒ Between stream/lake and other human use (1pts)
- ☐ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☐ Seasonally inundated (2pts)
- ☐ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☒ None or none apparent (12pts)
- ☐ Recovered (7pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☐	Tile	☐	Filing/grading
☐	Dike	☐	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

10	32
Max 20pts.	Subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☒ Recovered (3pts)
- ☐ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☒ Moderately good (4pts)
- ☐ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☐ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☒ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☒	Mowing	☐	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☒	Clear-cutting	☐	Sedimentation
☒	Selective cutting	☐	Dredging
☐	Woody debris removal	☐	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

32
Subtotal this page

Site: West Lancaster - WL-68-PEM	Rater(s): E. Holt	Date: 3/27/24

32

Subtotal first page

-10 | 22

Max 10pts | Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☒ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

3 | 25

Max 20 pts. | Subtotal

Metric 6. Plant communities, interspersion, micro topography..

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
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☒ Moderately low (2pts)
- ☐ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☒ Sparse 5-25% cover (-1)
- ☐ Nearly absent >5% cover (0pts)
- ☐ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
0	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class. **score**

6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	1
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded. **score**

2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	0
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☐
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☒
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	3
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☐
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☒
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☐

4

Subtotal

4

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	4
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☒
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	1
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☒
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☐
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	1
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☐
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☒

11

Subtotal

11

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations. 12

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☐	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 12 since there are no or no apparent modifications. 12	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 1
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☒

24

Subtotal

24

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils. 2

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☐ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance. 2	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 2
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☒
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 3

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☐
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☒
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to not be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

31

Subtotal

31

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.** 3

Check all that are observed present in or near the wetland

☒	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☒	Clear cutting	☐	Dredging
☒	Selective cutting	☐	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance. 3	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 3
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☐
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☒
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☐

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☒	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

27

Subtotal

27

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	2
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	2
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	
☐	**Other** (See User's Manual)	

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

29

Subtotal

29

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		3
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☒
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☐
1pt	LOW. Wetland has a low degree of interspersion	☐
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		-1
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☒
0pts	Nearly absent. <5% areal cover of invasive species	☐
1pt	Absent	☐

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	0
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☐
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

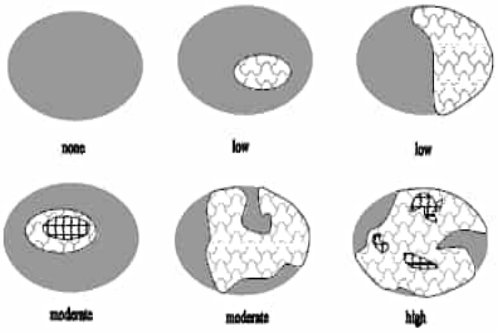

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

31

GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	2	
	Metric 2: Buffers and surrounding land use	3	
	Metric 3: Hydrology	10	
	Metric 4: Habitat	6	
	Metric 5: Special Wetland Communities	-9	
	Metric 6: Plant communities, interspersion, microtopography	7	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	19	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☐ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☒ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☒ Category 1	☐ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: West Lancaster - WL-60-PEM	Rater(s): E. Holt, L. Vine	Date: 3/27/24

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
2	2

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☒ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☐ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
4	6

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☒ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☐ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☒ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
13	19

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☐ Other groundwater (3pts)
- ☐ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☒ Between stream/lake and other human use (1pts)
- ☒ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☒ Regularly inundate/saturated (3pts)
- ☐ Seasonally inundated (2pts)
- ☐ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12pts)
- ☒ Recovered (7pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☐	Tile	☐	Filing/grading
☐	Dike	☐	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
10	29

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☒ Recovered (3pts)
- ☐ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☒ Moderately good (4pts)
- ☐ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☐ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☒ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☒	Mowing	☐	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☒	Clear-cutting	☐	Sedimentation
☒	Selective cutting	☐	Dredging
☐	Woody debris removal	☐	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

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Subtotal this page

Site: West Lancaster - WL-60-PEM	Rater(s): E. Holt	Date: 3/27/24

29

Subtotal first page

-10	19
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☒ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

4	23
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

0	Aquatic Bed
3	Emergent
1	Shrub
0	Forest
0	Mudflats
0	Open Water
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☒ Moderately low (2pts)
- ☐ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☒ Sparse 5-25% cover (-1)
- ☐ Nearly absent >5% cover (0pts)
- ☐ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
0	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

23	GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	2
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	1
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☒
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☐
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	3
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☐
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☒
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☐

6

Subtotal

6

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	4
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☒
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	1
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☒
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☐
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	2
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☒
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☐

8

Subtotal

8

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations. 12

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☐	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 12 since there are no or no apparent modifications. 12	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 12
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☒
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

32

Subtotal

32

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils. 1

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☒ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance. 1	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 3
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☒
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 4

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☒
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☐
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to <u>not</u> be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

40

Subtotal

40

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.** 3

Check all that are observed present in or near the wetland

☒	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☒	Clear cutting	☐	Dredging
☒	Selective cutting	☐	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance. 3	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 3
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☐
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☒
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☐

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☒	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

36

Subtotal

36

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	2
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	2
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	
☐	**Other** (See User's Manual)	

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

38

Subtotal

38

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		2
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☐
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☒
1pt	LOW. Wetland has a low degree of interspersion	☐
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		-1
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☒
0pts	Nearly absent. <5% areal cover of invasive species	☐
1pt	Absent	☐

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	0
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☐
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

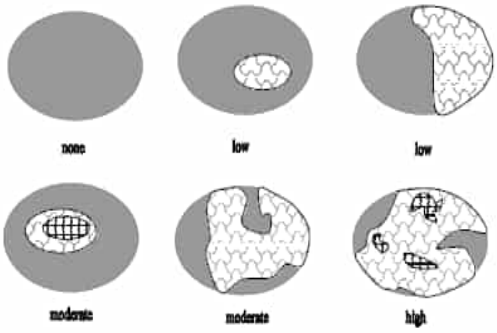

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

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GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	1	
	Metric 2: Buffers and surrounding land use	1	
	Metric 3: Hydrology	18	
	Metric 4: Habitat	9	
	Metric 5: Special Wetland Communities	0	
	Metric 6: Plant communities, interspersion, microtopography	3	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	32	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☒ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☐ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: Lancaster - WL-50-PEM	Rater(s): NSB	Date: 3/27/2024

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
1	1

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☐ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☒ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
1	2

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☐ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☒ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☐ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
18	20

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☒ Other groundwater (3pts)
- ☒ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☐ Between stream/lake and other human use (1pts)
- ☐ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☐ Seasonally inundated (2pts)
- ☒ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☒ None or none apparent (12pts)
- ☐ Recovered (7pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐ Ditch	☐ Point source (non-storm water)
☐ Tile	☐ Filing/grading
☐ Dike	☐ Road bed/RR track
☐ Weir	☐ Dredging
☐ Storm water input	☐ Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
9	29

4a. Substrate disturbance. Score one or double-check and average.

- ☒ None or none apparent (4pts)
- ☐ Recovered (3pts)
- ☐ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☒ Moderately good (4pts)
- ☐ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☐ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☐ Recovering (3pts)
- ☒ Recent or no recovery (1pts)

Check all disturbances observed

☐ Mowing	☐ Shrub/sapling removal
☐ Grazing	☐ Herbaceous/aquatic bed removal
☐ Clear-cutting	☐ Sedimentation
☐ Selective cutting	☐ Dredging
☐ Woody debris removal	☒ Farming
☐ Toxic pollutants	☐ Nutrient enrichment

29

Subtotal this page

Site: Lancaster - WL-50-PEM	Rater(s): NSB	Date: 3/27/2024

29

Subtotal first page

0	29
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☐ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

3	32
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

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
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☐ Moderately low (2pts)
- ☒ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent >5% cover (0pts)
- ☒ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
0	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

32	GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	1
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	0
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☐
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☒
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	1
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☐
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☐
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☒

2

Subtotal

2

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	4
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☒
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	0
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☐
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☐
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	1
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☐
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☒

8

Subtotal

8

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations.

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☐	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 12 since there are no or no apparent modifications. X	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 12
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☒
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

20

Subtotal

20

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils.

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☐ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** ☒ Assign a score of 4 since there are no or no apparent modifications. 4	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 4
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☒
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☐
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 4

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☐
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☐
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to <u>not</u> be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

28

Subtotal

28

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.**

Check all that are observed present in or near the wetland

☐	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☐	Clear cutting	☐	Dredging
☐	Selective cutting	☒	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance. 1	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 1
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☐
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☐
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☒

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☐	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

29

Subtotal

29

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	1
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	0
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	1
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	0
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	0
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	0
☐	**Other** (See User's Manual)	

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

30

Subtotal

30

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		1
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☐
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☐
1pt	LOW. Wetland has a low degree of interspersion	☒
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		1
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☐
0pts	Nearly absent. <5% areal cover of invasive species	☐
1pt	Absent	☒

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	0
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☐
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

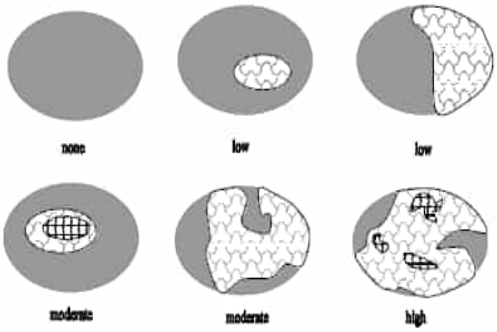

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

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GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	1	
	Metric 2: Buffers and surrounding land use	3	
	Metric 3: Hydrology	15	
	Metric 4: Habitat	11	
	Metric 5: Special Wetland Communities	-9	
	Metric 6: Plant communities, interspersion, microtopography	11	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	33	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☒ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☐ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☒ Category 1	☐ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: West Lancaster - WL-41-PEM	Rater(s): E. Holt	Date: 3/27/24

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
2	2

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☒ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☐ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
2	4

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☒ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☐ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
9	13

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☐ Other groundwater (3pts)
- ☐ Precipitation (1pts)
- ☒ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☐ Between stream/lake and other human use (1pts)
- ☒ Part of wetland/upland (e.g. forest), complex (1pts)
- ☐ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☐ Seasonally inundated (2pts)
- ☒ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12pts)
- ☐ Recovered (7pts)
- ☒ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☒	Tile	☐	Filing/grading
☐	Dike	☐	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
8	21

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☐ Recovered (3pts)
- ☒ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☐ Moderately good (4pts)
- ☒ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☐ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☒ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☒	Mowing	☒	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☒	Clear-cutting	☐	Sedimentation
☐	Selective cutting	☐	Dredging
☐	Woody debris removal	☒	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

21

Subtotal this page

Site: West Lancaster - WL-41-PEM	Rater(s): E. Holt	Date: 3/27/24

21

Subtotal first page

-10	11
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☒ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

7	18
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

0	Aquatic Bed
3	Emergent
1	Shrub
0	Forest
0	Mudflats
0	Open Water
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☒ Moderate (3pts)
- ☐ Moderately low (2pts)
- ☐ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☐ Moderate 25-75% cover (-3pts)
- ☒ Sparse 5-25% cover (-1)
- ☐ Nearly absent >5% cover (0pts)
- ☐ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
1	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

18 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	2
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	0
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☐
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☐
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☒
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	1
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☐
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☐
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☒

3

Subtotal

3

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	1
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☐
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	1
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☒
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☐
1pt	**Part of riparian or upland corridor.** See description above.	☐
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	1
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☐
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☒

7

Subtotal

7

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations.

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☒	point source discharges to the (non-storm water)
☒	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☐	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance. 1	**NO** Assign a score of 12 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 7
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☒
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

15

Subtotal

15

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils. 3.5

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☐ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☒ Double check "none or none apparent" and "recovered" and assign a score of 3.5 3.5

Select one or double check adjoining number and average the score.		**score** 3
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☒
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state.

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☒
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☐
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to <u>not</u> be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

25.5

Subtotal

25.5

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.** 3

Check all that are observed present in or near the wetland

☒	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☒	Clear cutting	☐	Dredging
☐	Selective cutting	☒	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance. 3	**NO** Assign a score of 9 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 3
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☐
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☒
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☐

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☒	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

29.5

Subtotal

29.5

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	4
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	0
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	2
☒	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	1
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	0
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	0
☐	**Other** (See User's Manual)	0

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

32.5

Subtotal

32.5

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		2
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☐
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☒
1pt	LOW. Wetland has a low degree of interspersion	☐
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		.-1
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☐
-1pt	Sparse. 5-25% areal cover of invasive species	☒
0pts	Nearly absent. <5% areal cover of invasive species	☐
1pt	Absent	☐

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	1
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☒
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

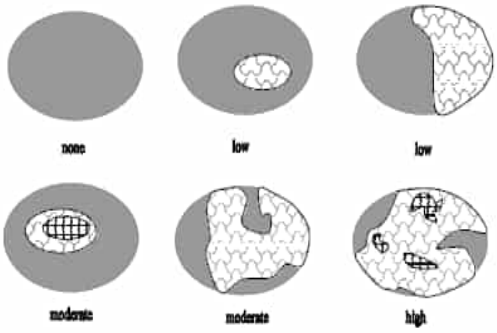

Figure 1. Hypothetical wetlands for estimating degree of interspersion.

34.5

GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

ORAM Summary Worksheet

		Circle answer or insert **score**	**Result**
Narrative Rating	Question 1: Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2: Threatened or Engagered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3: High Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4: Significant bird habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5: Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1
	Questions 6: Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7: Fens	☐ YES ☒ NO	If yes, Category 3.
	Questions 8a: Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b: Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9b: Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Questions 9d: Lake Erie Wetlands - Unrestricted	☐ YES ☒ NO	If yes, Category 3.
	Questions 9e: Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10: Oak Openings	☐ YES ☒ NO	If yes, Category 3.
	Quest 11: Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1: Size	2	
	Metric 2: Buffers and surrounding land use	9	
	Metric 3: Hydrology	13	
	Metric 4: Habitat	15	
	Metric 5: Special Wetland Communities	0	
	Metric 6: Plant communities, interspersion, microtopography	1	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	40	Category based on score breakpoints

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

Choices	Circle one		Evaluation
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10.	☐ YES Wetland is categorized as a Category 3 wetland	☒ NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	☐ YES Wetland should be evaluated for possible Category 3 status	☒ NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	☐ YES Wetland is categorized as a Category 1 wetland	☒ NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2 or 3 wetlands?	☐ YES Wetland is assigned to the appropriate category based on the scoring range	☒ NO	If the score of the wetland is located within the scoring range for a particular category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on an quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	☒ YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	☐ NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate or superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	☐ YES Wetland was under categorized by this method. A written justification for re-categorization should be provided on Background Information Form	☒ NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hdrologic function s because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria, in OAC Rula 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A ritten justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands

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ORAM v 5.0 Field Quantitative Rating

Site: Lancaster (WL-18S-PEM)	Rater(s): NSB	Date: 3/28/2024

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
2	2

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6pts)
- ☐ 25 to <50acrea (10.1 to <20.2ha) (5pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3pts)
- ☒ 0.3 to <3 acres (0.12 to 1.2ha) (2pts)
- ☐ .1 to <0.3acres (0.04 to <0.12ha) (1pts)
- ☐ <0.1 acres (0.04ha) (0pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
9	11

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50 m (164ft) or more around wetland perimeter (7pts)
- ☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4pts)
- ☐ NARROW. Buffers average 10m to <25m (32ft < 82ft) around wetland perimeter (1pts)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7pts)
- ☒ LOW. Old field (>10 years), shrub land, young second growth forest. (5pts)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3pts)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1pts)

Metric 3. Hydrology.

Max 30 pts.	subtotal
13	24

3a. Sources of Water. Score all that apply

- ☐ High pH groundwater (5pts)
- ☐ Other groundwater (3pts)
- ☒ Precipitation (1pts)
- ☐ Seasonal/Intermittent surface water (3pts)
- ☐ Perennial surface water (lake or stream) (5pts)

3b. Connectivity. Score all that apply

- ☐ 100 year floodplain (1pts)
- ☒ Between stream/lake and other human use (1pts)
- ☒ Part of wetland/upland (e.g. forest), complex (1pts)
- ☒ Part of riparian or upland corridor (1pts)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3pts)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) 2pts)
- ☒ <0.4m ((<15.7in) (1pts_

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4pts)
- ☐ Regularly inundate/saturated (3pts)
- ☐ Seasonally inundated (2pts)
- ☒ Seasonally saturated in upper 30cm (12in) (1pts)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12pts)
- ☒ Recovered (7pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Ditch	☐	Point source (non-storm water)
☐	Tile	☐	Filing/grading
☐	Dike	☒	Road bed/RR track
☐	Weir	☐	Dredging
☐	Storm water input	☐	Other_____.

Metric 4. Habitat Alteration and Development.

Max 20pts.	Subtotal
15	39

4a. Substrate disturbance. Score one or double-check and average.

- ☐ None or none apparent (4pts)
- ☒ Recovered (3pts)
- ☐ Recovered (2pts)
- ☐ Recent or no recovery (1pts)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7pts)
- ☐ Very good (6pts)
- ☐ Good (5pts)
- ☐ Moderately good (4pts)
- ☒ Fair (3pts)
- ☐ Poor to fair (2pts)
- ☐ Poor (pts)

4c. Habitat alteration. Score one or double-check and average.

- ☒ None or none apparent (9pts)
- ☐ Recovered (6pts)
- ☐ Recovering (3pts)
- ☐ Recent or no recovery (1pts)

Check all disturbances observed

☐	Mowing	☐	Shrub/sapling removal
☐	Grazing	☐	Herbaceous/aquatic bed removal
☐	Clear-cutting	☐	Sedimentation
☐	Selective cutting	☐	Dredging
☐	Woody debris removal	☐	Farming
☐	Toxic pollutants	☐	Nutrient enrichment

39

Subtotal this page

Site: Lancaster (WL-18S-PEM)	Rater(s): NSB	Date: 3/28/2024

39

Subtotal first page

0	39
Max 10pts	Subtotal

Metric 5. Special wetlands.

Check all that apply and score as indicated

- ☐ Bog (10pts)
- ☐ Fen (10pts)
- ☐ Old growth forest (10pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10pts)
- ☐ Lake Erie coastal tributary wetland-restricted hydrology (5pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10pts)
- ☐ Relict Wet Prairies (10pts)
- ☐ Known occurrence state/federal threatened or endangered species (10pts)
- ☐ Significant migratory songbird/water fowl habitat or usage (10pts)
- ☐ Category 1 Wetland. See Question 1 Qualitative Rating (-10pts)

1	40
Max 20 pts.	Subtotal

Metric 6. Plant communities, interspersion, micro topography..

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
	Other_____.

6b. Horizontal (plan view) Interspersion

Select only one.

- ☐ High (5pts)
- ☐ Moderately high (4pts)
- ☐ Moderate (3pts)
- ☒ Moderately low (2pts)
- ☐ Low (1pts)
- ☐ None (0pts)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75% cover (-5pts)
- ☒ Moderate 25-75% cover (-3pts)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent >5% cover (0pts)
- ☐ Absent (1pts)

6d. Micro topography

Score all present using 0 to 3 scale.

0	Vegetated hummocks/tussocks
1	Coarse woody debris >15cn (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 put 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)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Micro topography 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

40	GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www/epa/state/oh.us/dsw/401/401.html

Last revised 1 February 2001 jjm

Quantitative Rating

Metric 1. Wetland area (max 6pts). Estimate the area of wetland. Select the appropriate size class and assign score. Estimated areas should clearly place the wetland within the appropriate class.

		score
6pts	≥ 50 acres (≥ 20.2ha)	
5pts	25 - <50 acres (10.1 - <20.2ha)	
4pts	10 - <25 acres (4.0 - <10.1ha)	
3pts	3 - <10 acres (1.2 - <4.0ha)	
2pts	0.3 - <3 acres (0.12 - <1.2ha)	2
1pt	0.1 - <0.3 acres (0.04 - <0.12ha)	
0pts	<0.1 acres (0.04ha)	

Table 2. Metric to English conversion table with visual estimation sizes

acres	ft^2	yd^2	ft on side	yd on side	ha	m^2	m on side
50	2,177,983	241,998	1476	492	20.2	202,000	449
25	1,088,992	120,999	1044	348	10.1	101,000	318
10	435,596	48,340	660	220	4.1	41,000	203
3	130,679	14,520	362	121	1.2	12,000	110
0.3	13,067	1,452	114	38	0.12	1,200	35
0.1	4,356	484	66	22	0.04	400	20

Metric 2. Upland buffers and intensity of surrounding land uses. Maximum 14 points. Wetlands are systems transitional between upland and aquatic environments. Wetlands without "buffers," or that are located where human land use is more intensive, are often, but not always, more degraded.

		score
2a.	**Average Buffer Width (abw).** Calculate the average buffer width and select only one score. To calculate abw, estimate buffer width on each side (max of 50m) and divide by the number of sides. Example: abw of a wetland with buffers of 100m, 25m, 10m and 0m would be calculated as follows: abw = (50m + 25m + 10m + 0m)/4 = 21.25m. Intensive land uses are not buffers, e.g. active row cropping, recently abandoned fields, paved areas, housing developments, unfenced pasture, etc.	4
7pts	WIDE. >50m (164ft) or more around perimeter	☐
4pts	MEDIUM. 25m to <50m (82 to <164ft) around the perimeter	☒
1pt	NARROW. 10m to <25m (32 to <82ft) around the perimeter	☐
0pts	VERY NARROW. <10m (<32ft) around perimeter.	☐
2b.	**Intensity of predominant surround land use(s).** Select one, or double check up to two and average score, for the intensity of the predominant land use(s) outside the wetland's buffer zone (if any).	5
7pts	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc.	☐
5pts	LOW. Old field (>10 yrs), shrubland, young 2nd growth forest, etc.	☒
3pts	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field, etc.	☐
1pt	HIGH. Urban, industrial, open pasture, row cropping, mining, construction, etc.	☐

11

Subtotal

11

Subtotal from previous page

Metric 3. Hydrology Maximum 30 points. **This metric evaluates the wetland's water budget, hydro period, the hydrologic** connectivity of the wetland to other surface water, and the degree to which the wetland's hydrology has been altered by human activity. A wetland can receive no more than 30 points for Metric 3 even though it is possible to score more than 30 points.

		score
3a.	**Sources of Water.** Select all that apply and sum score. This question relates to a wetland's water budget. It also is reflective that wetlands with certain types of water sources, or multiple water sources, e.g. high pH groundwater or perennial surface water connections, can be very high quality wetlands or can have high functions and values.	1
5pts	High pH groundwater (7.5-9.0)	☐
3pts	Other groundwater	☐
1pt	Precipitation	☒
3pts	Seasonal surface water	☐
5pts	Perennial surface water (lake or stream)	☐
3b.	**Connectivity.** Select all that apply and sum score	3
1pt	**100-year floodplain.** "Floodplain is defined in OAC Rule 3745-1-50(P) as "…the relatively level land next to a stream or river channel that is periodically submerged by floodwaters. It is composed of alluvium deposited by the present stream or river when it floods." Where they are available, flood insurance rate maps (FIRMs) and flood boundary and floodway maps may be used.	☐
1pt	**Between stream/lake and other human land use.** This question asks whether the wetland is located between a surface water and a different adjacent land use, such that run-off from the adjacent land use could flow through wetland before it discharges into the surface water. "Different adjacent land uses" include agricultural, commercial, industrial, mining, or residential uses.	☒
1pt	**Part of wetland or upland (e.g. forest, prairie) complex.** Both this and the next question ask whether the wetland is in physical proximity to, or a part of other nearby wetland or upland natural areas. The difference is whether the area the wetland is "long and narrow" like a river, or more "squarish" like a large forest or woodlot. If the latter is the case, this question applies: if the former, the next question applies. In a few instances, both may apply.	☒
1pt	**Part of riparian or upland corridor.** See description above.	☒
3c.	**Maximum water depth.** Select only one and assign score. The Rater *does not* need to actually observe the wetland when its water depth is greates in order to award the maximum points for this question. The use of secondary indicators, as outlined in the 1987 Manual will be useful in answering this question.	1
3pts	>0.7m (27.6in)	☐
2pts	0.4 to 0.7m (15.7 to 27.6in)	☐
1pt	<0.4m (<15.7in)	☒
3d.	**Duration of inundation/saturation.** Select one or double-check and average the scores if duration is uncertain. The use of secondary indicator s is necessary and expected in order to properly answer this Question. Categories correspond to Zones II, III, and IV of 1987 Manual (Table 5). Zone IV subdivided into seasonally	1
4pts	Semi permanently to permanently inundated or saturated.	☐
3pts	Regularly inundated or saturated.	☐
2pts	Seasonally inundated.	☐
1pt	Seasonally saturated in the upper 30cm (12in) of soil.	☒

17

Subtotal

17

Subtotal from previous page

3e. **Modifications to natural hydrologic regime.** Check all observable modifications from list below. Score by selecting the most appropriate description of the wetland. Scores may be double checked and averaged. This question asks the Rater to evaluate the "intactness" of, or lack of disturbance to, the natural hydrologic regime of the type of wetland that is being evaluated.

It is very important to stress that this question does not discriminate between wetlands with different types of hydrologic regime, e.g. between a forested seep wetland located on a floodplain with seasonal inundation and a leather leaf *(Chamaedaphne calyculata)* bog with precipitation and minor amounts of surface run-off from a small watershed. Rather, it asks the rater to evaluate the "intactness" of the hydrologic regime attributable to *that type of wetland*. In the example above, both the forested seep wetland and the leather leaf bog can score the maximum points (12) if they're no, or no apparent, modifications to the natural hydrologic regime.

Once the Rater has listed all possible past and ongoing disturbances, the Rater should check the most appropriate category to describe the present state of the wetland. In instances where the Rater believes that a wetland falls between two categories, or where the Rater is uncertain as to which category is appropriate, it is appropriate to "double check" and average the score.

The labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a hydrologic disturbance continuum, from very high to very low or no disturbance.

The Rater may check one or several of these possible disturbance, yet still determine that the natural hydrologic regime is intact. However, see Metric 4 where these same disturbances may be habitat alterations.

Check all that are observed present in or near the wetland

☐	ditch(es), in or near the wetland	☐	point source discharges to the (non-storm water)
☐	tile(s), in or near the wetland	☐	filing/grading activities in or near the wetland
☐	dike(s), in or near the wetland	☒	road beds/RR beds in or near the wetland
☐	weir(s), in or near the wetland	☐	dredging activities in or near the wetland
☐	storm water inputs (addition of water)	☐	other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 7, or an intermediate score, depending on degree of recovery from the disturbance. 7	**NO** Assign a score of 12 since there are no or no apparent modifications.	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 9.5

Select one or double check adjoining number and average the score.		**score** 7
12pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
7pts	RECOVERED. The wetland appears to have recovered from past modifications.	☒
3pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

24

Subtotal

24

Subtotal from previous page

Metric 4. Habitat Alteration and Development. Maximum 20 points. While hydrology may be the single most important determinant for the establishment and maintenance of specific types of wetlands and wetland processes, there is a range of other factors and activities which affect wetland quality and cause disturbances to wetlands that are unrelated to hydrology. This metric attempts to evaluate these things under the rubric "habitat alteration." In many instances, items checked as possible hydrologic disturbances in Question 3e will be instead alterations to a wetland's habitat or disruptions in its development (succession state). In other instances, a disturbance may be appropriately considered under both Metric 3 and Metric 4. In any case, the Rater should carefully consider what is the actual proximate (direct) cause of the disturbance to the wetland.

4a. **Substrate/Soil Disturbance.** Select one or double check and average. This question evaluates physical disturbances to the soil and surface substrates of the wetland. Note also that the labels on the scoring categories are intended to be descriptive but not controlling. In some instances, it may be more appropriate to consider the scoring categories as fixed locations on a disturbance continuum, from very high to very low or no disturbance.

Examples of substrate/soil disturbance include filling and grading, plowing, grazing (hooves), vehicle use (motorbikes, off-road vehicles, construction vehicles), sedimentation, dredging, and other mechanical disturbances to the surface substrates or soils.

Circle one answer. Have any of soil or substrate disturbances caused or appear to have caused more than trivial alterations to the wetland's natural soils or substrates, or have they occurred so far in the past that current conditions should be considered to be "natural"?	**YES** ☒ Assign a score 1, 2 or 3, or an intermediate score, depending on degree of recovery from the disturbance. 3	**NO** ☐ Assign a score of 4 since there are no or no apparent modifications.	**NOT SURE** ☐ Double check "none or none apparent" and "recovered" and assign a score of 3.5

Select one or double check adjoining number and average the score.		**score** 3
4pts	NONE OR NONE APPARENT. There are no modifications or no modifications that are apparent to the Rater.	☐
3pts	RECOVERED. The wetland appears to have recovered from past modifications.	☒
2pts	RECOVERING. The wetland appears to be in the process of recovering from past modifications	☐
1pt	RECENT OR NO RECOVERY. The modifications have occurred, recently occurred, and/or the wetland has not recovered from past modifications, and/or the modifications are ongoing.	☐

4b. **Habitat development.** Select only one and assign score. This question asks the Rater to assign an overall qualitative rating of how well developed the wetland is in comparison to other ecologically or hydrogeomorphically similar wetlands. This question presumes a good sense of the types of wetlands and the range in quality typical of the region, watershed, or state. 3

7pts	EXCELLENT. Wetland appears to represent the best of its type or class.	☐
6pts	VERY GOOD. Wetland appears to be a very good example of its type or class but is lacking in characteristics, which would make it excellent.	☐
5pts	GOOD. Wetland appears to be a good example of its type or class but because of past or present disturbances, successional state, or other reasons, is not excellent.	☐
4pts	MODERATELY GOOD. Wetland appears to be a fair to good example of its type or class.	☐
3pts	FAIR. Wetland appears to be a moderately good example of its type or class but because of past or present disturbances, successional state, etc. is not good.	☒
2pts	POOR TO FAIR. Wetland appears to be a poor to fair example of its type or class.	☐
1pt	POOR. Wetland appears to <u>not</u> be a good example of its type or class because of past or present disturbances, successional state, etc.	☐

30

Subtotal

30

Subtotal from previous page

4c. **Habitat alteration.** This question evaluates the "intactness" the natural habitat of the type of wetland that is being evaluated. This question does not discriminate between wetlands with different types of habitat. Check all possible alterations that are observed. All available information, field visits, aerial photos, maps, etc. can be used to identify a possible alteration. Evaluate whether the alteration is trivial in relation to the wetlands overall habitat. Select the most appropriate score that best describes the present state of the wetland. It is appropriate to "double check" and average scores. In some instances, the scores can be viewed as a habitat alteration continuum, from very high to very low or no disturbance. **The Rater may check one or several of these possible disturbances, yet still determine that the natural habitat is intact.**

Check all that are observed present in or near the wetland

☐	Mowing	☐	Herbaceous layer/aquatic bed removal
☐	Grazing (cattle, sheep, pigs, etc.)	☐	Sedimentation
☐	Clear cutting	☐	Dredging
☐	Selective cutting	☐	Farming
☐	Woody debris removal	☐	Nutrient enrichment, e.g. nuisance algae
☐	Toxic pollutants	☐	Other (specify)
☐	Shrub/sapling removal	☐	Other (specify)

Circle one answer. Have any of the disturbances identified above caused or appear to have caused more than trivial alterations to the wetland's natural hydrologic regime, or have they occurred so far in the past that current hydrology should be considered to be "natural"?	**YES** Assign a score 1, 3 or 6, or an intermediate score, depending on degree of recovery from the disturbance.	**NO** Assign a score of 9 since there are no or no apparent modifications. X	**NOT SURE** Double check "none or none apparent" and "recovered" and assign a score of 7.5

Select one or double check adjoining number and average the score.		**score** 9
9pts	NONE OR NONE APPARENT. There are no alterations or no alterations that are apparent to the Rater.	☒
6pts	RECOVERED. The wetland appears to have recovered from past alterations.	☐
3pts	RECOVERING. The wetland appears to be in the process of recovering from past alterations/	☐
1pt	RECENT OR NO RECOVERY. The alterations/ have occurred, recently occurred, and/or the wetland has not recovered from past alterations/, and/or the alterations/ are ongoing.	☐

Metric 5. Special wetland communities. Maximum 10 points. Assign or deduct points if wetland has the feature described. Refer to Narrative Rating for guidance. No wetland can receive more than 10 points even if multiple categories are applicable.

☐	Bog (10pts)	☐	Lake plains sand prairies (Oak Openings) (10 pts)
☐	Fen (10 pts)	☐	Relict wet prairies (10 pts)
☐	Old Growth Forest (10 pts)	☐	Known occurrence of threatened/endangered species (10pts)
☐	Mature Forested Wetland (5 pts)	☐	Significant migratory songbird/waterfowl habitat (10 pts)
☐	Coastal wetlands, unrestricted hydrology (10 pts)	☐	Category 1 wetlands (See Narrative Rating #5) (-10 pts)
☐	Coastal wetlands, restricted hydrology (5 pts)		

39

Subtotal

39

Subtotal from previous page

Metric 6. Vegetation, Interspersion, and Microtopography. Maximum 20 points.

6a.	**Wetland Vegetation Communities.** Check each community present both vertically and horizontally within the wetland with an area of at least 0.1hectares or 100m^2 (0.2471 acres). Assign a score of 0 to 3 using Tables 3, Table 4 or Table 5. Sum the scores for the classes present.	1
☐	**Aquatic Bed.** Includes areas of wetlands dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Floating aquatic species like duckweed *(Lemna* spp., *spirodela*spp.*)* are excluded from definition of "aquatic bed." Aquatic beds often occur as a distinct zone as an "understory" below shrubs or trees.	0
☒	**Emergent.** Includes areas of wetland dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Common names for emergent communities include marsh, wet meadow, wet prairie, sedge meadow, fens, prairie pothole, and bluejoint slough.	1
☐	**Shrub.** Includes areas of wetlands dominated by woody vegetation less than 6m (20ft) tall. The plant species include true shrubs, young trees, or trees or shrubs that are small or stunted because of environmental conditions. Shrub wetlands may represent a successional stage leading to a forested wetland or they may be relatively stable plant communities.	0
☐	**Forested.** Includes wetlands or areas of wetlands characterized by wood vegetation greater than 6m (20ft) or taller. Forested wetlands have an overstory of trees and often contain an understory of young trees and shrubs and an herbaceous layer, although the young tree/shrub and herbaceous layers can be largely missing from some types of forested wetlands. Some forested wetlands are defined as "vernal pools" in OAC Rule 3745-1-50.	0
☐	**Open water.** The "open water" class is equivalent to the "unconsolidated bottom/mud" class/subclass (pub_3) described in Cowardin et al. (1979) and includes areas of wetlands characterized by exposed or shallowly inundated substrates with vegetative cover less than 30%.	0
☐	**Other** (See User's Manual)	

Table 3. Use this table to assign a cover score for Metric 6a to each of the vegetation communities identified on the preceding page. Refer to Table 6 for narrative descriptions of what "low," "moderate," and "high" quality mean.

Cover scale	Description
0	the vegetation community is either, 1) absent from wetland, or 2) comprises less than 0.1ha (0.2471 acres) of contiguous area within the wetland
1	vegetation community is present and either, 1) comprises a small part of the wetland's vegetation and is of low or moderate quality, or 2) if it comprises a significant part of the wetland's vegetation, the community is of low quality
2	the vegetation community is present and either, 1) comprises a significant part of the wetland's vegetation and is of moderate quality, or 2) the vegetation community comprises a small part of the wetland's vegetation but is of high quality.
3	the vegetation community is of high quality and comprises a significant part, or more of the wetland's vegetation

Table 4. Use this table in conjunction with Table 5 to determine what is a "low," "moderate," or "high quality community

narrative	description
low	Low species diversity and/or a predominance of non-native or disturbance tolerant native species
moderate	Native species are the dominant component of the vegetaion, although non-native or disturbance tolerant native species can also be present, and species diversity is moderate to moderately high, but generally without the presence of rare, threatened, or endangered species.
high	A predominance of native species, with non-native species absent or virtually absent, and high species diversity and sometimes, but not always, the presence of rare, threatened or endangered species.

Table 5. Mudflat and open water community cover scale

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1ha to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

40

Subtotal

40

Subtotal from previous page

6b. **Horizontal (plan view) interspersion.** Select only one and assign score. Evaluate the wetland from a "plan view," i.e. as if the looking down upon it. See Figure 1.		2
5pts	HIGH. Wetland has a high degree of interspersion	☐
4pts	MODERATELY HIGH. Wetland has a moderately high degree of interspersion	☐
3pts	MODERATE. Wetland has a moderate degree of interspersion	☐
2pts	MODERATELY LOW. Wetland has a moderately low degree of interspersion	☒
1pt	LOW. Wetland has a low degree of interspersion	☐
0pts	NONE. Wetland has no plan view interspersion	☐

6c. **Coverage of Invasive Plant Species.** Refer to Table 1 on Page 7 for list. Select only one and assign score.		-3
-5pts	Extensive. >75% areal cover of invasive species	☐
-3pts	Moderate 25-75% areal cover of invasive species	☒
-1pt	Sparse. 5-25% areal cover of invasive species	☐
0pts	Nearly absent. <5% areal cover of invasive species	☐
1pt	Absent	☐

6d. **Microtopography.** Check each feature present in the wetland. Assign cover score of 0 to 3 using Table 6. Evaluate various microtopographic habitat features often present in wetlands.	1
Vegetated hummocks and tussocks.	☐
Coarse woody debris >15cm (6in) diameter	☒
Standing dead trees >25cm (10in) diameter at breast height	☐
Amphibian breeding habitat, e.g. vernal pools with standing water of sufficient duration and depth to support reproduction, or habitat for from reproduction	☐

Table 6. Cover scale for microtopographic habitat features.

Microtopographic habitat quality	narrative description
0	Feature is absent or functionally absent from the wetland
1	Feature is present in the wetland in very small amounts or if more common, of low quality
2	Feature is 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

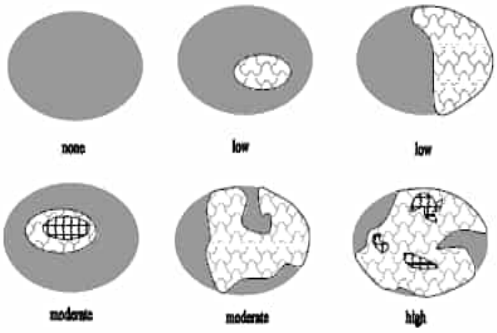


Figure 1. Hypothetical wetlands for estimating degree of interspersion.

40

GRAND TOTAL

End of Quantitative Rating. Complete Categorization Worksheets.

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

Appendix E

QHEI and HHEI Forms

OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 46

SITE NAME/LOCATION: W. Lancaster-S.Baltimore-W.Millersport

SITE NUMBER: ST-31-PER | RIVER BASIN: | DRAINAGE AREA (mi²): 0.37

LENGTH OF STREAM REACH (ft): 200 | LAT.: 39.89130 | LONG.: -82.56970 | RIVER CODE: | RIVER MILE: 1.14

DATE: 03/27/24 | SCORER: Nathan Barna | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]	0%	☑☐	SILT [3 pt]	55%
☐☐	BOULDER (>256 mm) [16 pts]	0%	☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐☐	BEDROCK [16 pt]	0%	☐☐	FINE DETRITUS [3 pts]	0%
☐☐	COBBLE (65-256 mm) [12 pts]	0%	☐☑	CLAY or HARDPAN [0 pt]	40%
☐☐	GRAVEL (2-64 mm) [9 pts]	0%	☐☐	MUCK [0 pts]	0%
☐☐	SAND (<2 mm) [6 pts]	5%	☐☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0.00% (A)

Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

HHEI Metric Points

Substrate Max = 40: 6

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☑ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: **MAXIMUM POOL DEPTH (centimeters):** 45

Pool Depth Max = 30: 20

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☑ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: **AVERAGE BANKFULL WIDTH (meters):** 3.00

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Narrow <5m	☐	☐	Residential, Park, New Field	☑	☑	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☑ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Baltimore

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.30

Photograph Information: _____

Elevated Turbidity? (Y/N): Y Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

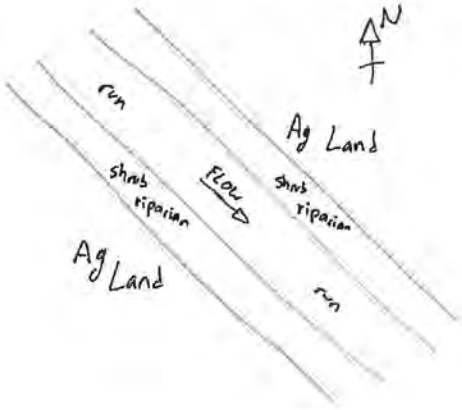
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →



October 24, 2002 Revision

Save as pdf Reset Form

Ohio EPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 40

Stream & Location: W. Lancaster - S. Baltimore - W. Millersport **RM:** ___._ **Date:** 3 / 27 / 24

ST-25-PER **Scorers Full Name & Affiliation:** V3 Companies - Nathan Barnett

River Code: ___-___-___ **STORET #:** _____ **Lat./Long.:** (NAD 83 - decimal °) 39 . 87185 /82 . 57663 **Office verified location** ☐

1] SUBSTRATE
Check **ONLY Two** substrate *TYPE BOXES*; estimate % or note every type present

BEST TYPES	POOL	RIFFLE
☐ ☐ BLDR /SLABS [10]		
☐ ☐ BOULDER [9]		
☐ ☐ COBBLE [8]		5
☐ ☐ GRAVEL [7]		40
☐ ☒ SAND [6]	20	25
☐ ☐ BEDROCK [5]		

OTHER TYPES	POOL	RIFFLE
☐ ☐ HARDPAN [4]	20	
☐ ☐ DETRITUS [3]		
☐ ☐ MUCK [2]		
☒ ☐ SILT [2]	60	30
☐ ☐ ARTIFICIAL [0]		

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☒ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☒ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☒ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 7 (Maximum 20)

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 (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

- 1 UNDERCUT BANKS [1]
- 0 OVERHANGING VEGETATION [1]
- 0 SHALLOWS (IN SLOW WATER) [1]
- 1 ROOTMATS [1]
- 0 POOLS > 70cm [2]
- 0 ROOTWADS [1]
- 0 BOULDERS [1]
- 0 OXBOWS, BACKWATERS [1]
- 0 AQUATIC MACROPHYTES [1]
- 0 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☐ SPARSE 5-<25% [3]
- ☒ NEARLY ABSENT <5% [1]

Comments

Cover 3 (Maximum 20)

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

Channel 10 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE
Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

EROSION (L / R)
- ☐ ☐ NONE / LITTLE [3]
- ☒ ☒ MODERATE [2]
- ☐ ☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L / R)
- ☐ ☐ WIDE > 50m [4]
- ☐ ☐ MODERATE 10-50m [3]
- ☐ ☐ NARROW 5-10m [2]
- ☒ ☒ VERY NARROW < 5m [1]
- ☐ ☐ NONE [0]

FLOOD PLAIN QUALITY (L / R)
- ☐ ☐ 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]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 4 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check **ONE** (*ONLY!*)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☒ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (*Or 2 & average*)
- ☒ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ SLOW [1]
- ☐ VERY FAST [1]
- ☐ INTERSTITIAL [-1]
- ☒ FAST [1]
- ☐ INTERMITTENT [-2]
- ☒ MODERATE [1]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 6 (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]

Comments

Riffle / Run 2 (Maximum 8)

6] GRADIENT
(39 ft/mi) ☐ VERY LOW - LOW [2-4] ☐ MODERATE [6-10] ☒ HIGH - VERY HIGH [10-6]

DRAINAGE AREA (1.2 mi²)

%POOL: 20 %GLIDE: 0 %RUN: 70 %RIFFLE: 10

Gradient 8 (Maximum 10)

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

40 meters

CLARITY

1st --sample pass--	2nd
☒ < 20 cm	☒
☐ 20-<40 cm	☐
☐ 40-70 cm	☐
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

1st pass 2nd _____ cm

CANOPY
- ☒ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

B] AESTHETICS
- ☐ NUISANCE ALGAE
- ☐ INVASIVE MACROPHYTES
- ☒ EXCESS TURBIDITY
- ☐ DISCOLORATION
- ☐ FOAM / SCUM
- ☐ OIL SHEEN
- ☐ TRASH / LITTER
- ☐ NUISANCE ODOR
- ☐ SLUDGE DEPOSITS
- ☐ CSOs/SSOs/OUTFALLS

C] RECREATION
POOL: AREA ☐ >100ft² DEPTH ☐ >3ft

D] MAINTENANCE
Circle some & *COMMENT*

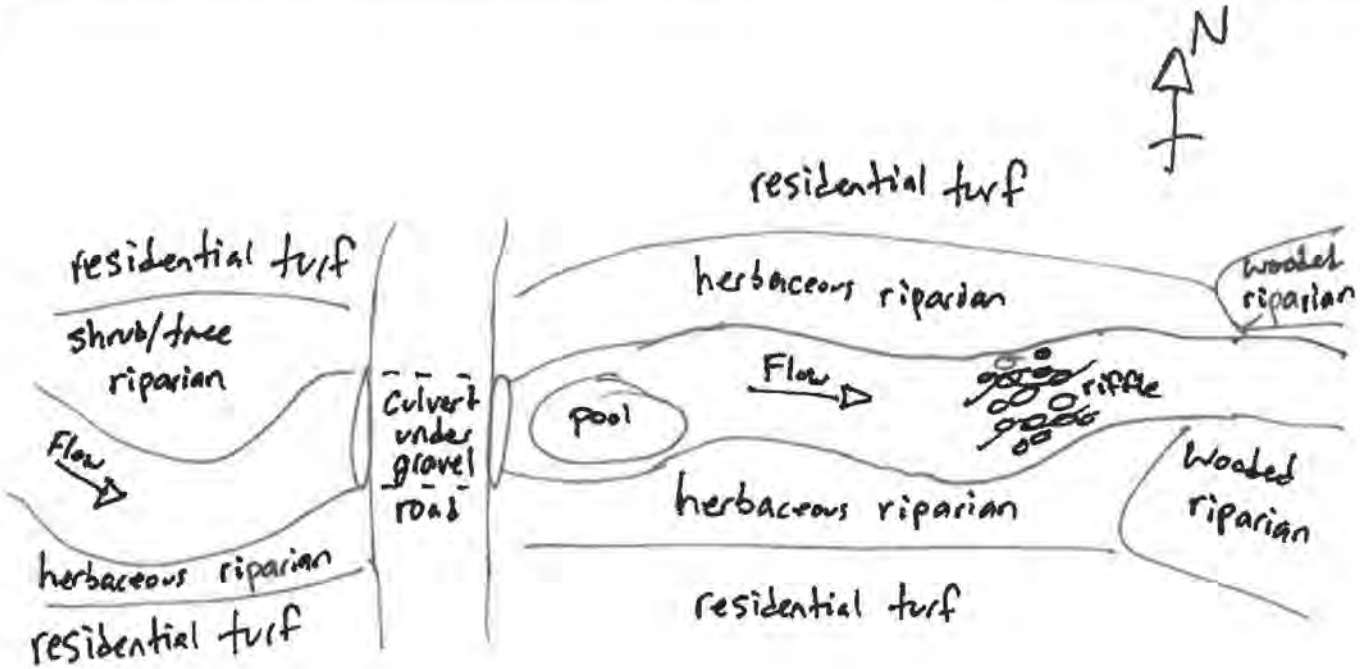
PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURED
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

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 H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS
- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio
- *Legacy Tree:*

Comment RE: Reach consistency/ Is reach typical of steam?, *Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

Stream Drawing:



OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 33

Stream & Location: W. Lancaster - S. Baltimore - W. Millersport ST-15-PER **RM:** ___ **Date:** 3/27/24

Scorers Full Name & Affiliation: V3 Companies - Nathan Barnett

River Code: ___-___-___ **STORET #:** ___ **Lat./Long.:** (NAD 83 - decimal °) 39 . 85415 /82 . 58457 **Office verified location** ☐

1] SUBSTRATE
Check *ONLY* **Two** substrate *TYPE BOXES*; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☒ ☐ HARDPAN [4]	40	
☐☐ BOULDER [9]			☐ ☐ DETRITUS [3]		
☐☐ COBBLE [8]			☐ ☐ MUCK [2]		
☐☐ GRAVEL [7]			☐ ☒ SILT [2]	50	
☐☐ SAND [6]	10		☐ ☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]			(Score natural substrates; ignore sludge from point-sources)		

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☒ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☒ HEAVY [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☒ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate 3 *Maximum 20*

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 (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

1 UNDERCUT BANKS [1]	0 POOLS > 70cm [2]	0 OXBOWS, BACKWATERS [1]
1 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	0 AQUATIC MACROPHYTES [1]
0 SHALLOWS (IN SLOW WATER) [1]	0 BOULDERS [1]	2 LOGS OR WOODY DEBRIS [1]
1 ROOTMATS [1]		

AMOUNT
Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☒ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover 9 *Maximum 20*

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

Channel 10 *Maximum 20*

4] BANK EROSION AND RIPARIAN ZONE
Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

EROSION (L / R)
- ☐ ☐ NONE / LITTLE [3]
- ☒ ☒ MODERATE [2]
- ☐ ☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L / R)
- ☐ ☐ WIDE > 50m [4]
- ☐ ☐ MODERATE 10-50m [3]
- ☐ ☐ NARROW 5-10m [2]
- ☒ ☒ VERY NARROW < 5m [1]
- ☐ ☐ NONE [0]

FLOOD PLAIN QUALITY (L / R)
- ☐ ☐ FOREST, SWAMP [3]
- ☐ ☐ SHRUB OR OLD FIELD [2]
- ☐ ☐ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐ ☐ FENCED PASTURE [1]
- ☒ ☒ OPEN PASTURE, ROWCROP [0]

(L / R)
- ☐ ☐ CONSERVATION TILLAGE [1]
- ☐ ☐ URBAN OR INDUSTRIAL [0]
- ☐ ☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 3 *Maximum 10*

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH
Check **ONE** (*ONLY!*)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☒ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH
Check ONE (*Or 2 & average*)
- ☒ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY
Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☐ FAST [1]
- ☒ MODERATE [1]
- ☐ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 5 *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]

Comments No riffles in sampled reach

Riffle / Run 0 *Maximum 8*

6] GRADIENT (ft/mi)
DRAINAGE AREA (4.43 mi²)

- ☒ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 30 %GLIDE: 0
%RUN: 70 %RIFFLE: 0

Gradient 3 *Maximum 10*

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

50 meters

CLARITY

1st --sample pass--	2nd
☒ < 20 cm	☒
☐ 20-<40 cm	☐
☐ 40-70 cm	☐
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

1st pass _____ cm
2nd _____ cm

CANOPY
- ☒ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?, *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

C] RECREATION
AREA DEPTH
POOL: ☐ >100ft² ☐ >3ft

D] MAINTENANCE
Circle some & *COMMENT*

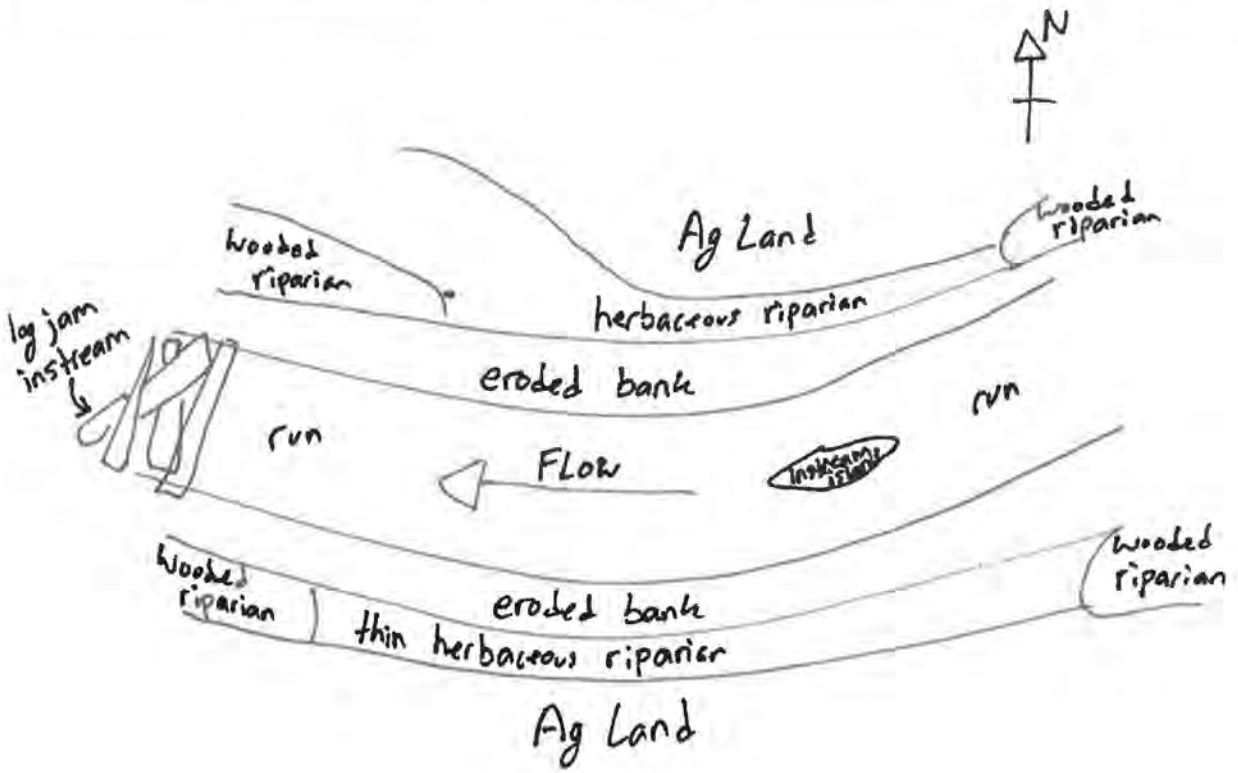
PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURED
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

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 H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS
- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 59

Stream & Location: W. Lancaster - S. Baltimore - W. Millersport / Walnut Creek **RM:** ___ **Date:** 3 / 28 / 24

Scorers Full Name & Affiliation: V3 Companies - Emily Holt

River Code: ___-___-___ **STORET #:** ___ **Lat./ Long.:** (NAD 83 - decimal °) 39 . 7020 / 82 . 6401 **Office verified location** ☐

1] SUBSTRATE
Check *ONLY* **Two** substrate *TYPE BOXES*; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]		
☒☐ COBBLE [8]		50	☐☐ MUCK [2]		
☐☒ GRAVEL [7]		50	☐☐ SILT [2]		
☐☐ SAND [6]			☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☒ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☐ MODERATE [-1]
- ☒ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☒ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 16 *Maximum 20*

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 (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

0 UNDERCUT BANKS [1]	2 POOLS > 70cm [2]	0 OXBOWS, BACKWATERS [1]
0 OVERHANGING VEGETATION [1]	0 ROOTWADS [1]	0 AQUATIC MACROPHYTES [1]
0 SHALLOWS (IN SLOW WATER) [1]	0 BOULDERS [1]	0 LOGS OR WOODY DEBRIS [1]
0 ROOTMATS [1]		

AMOUNT
Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☒ MODERATE 25-75% [7]
- ☐ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover 9 *Maximum 20*

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

Channel 14 *Maximum 20*

4] BANK EROSION AND RIPARIAN ZONE
Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

EROSION (L / R)	RIPARIAN WIDTH (L / R)	FLOOD PLAIN QUALITY (L / R)
☐☐ NONE / LITTLE [3]	☐☐ WIDE > 50m [4]	☐☐ FOREST, SWAMP [3]
☐☐ MODERATE [2]	☐☐ MODERATE 10-50m [3]	☐☐ SHRUB OR OLD FIELD [2]
☒☒ HEAVY / SEVERE [1]	☐☐ NARROW 5-10m [2]	☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
	☒☒ VERY NARROW < 5m [1]	☐☐ FENCED PASTURE [1]
	☐☐ NONE [0]	☒☒ OPEN PASTURE, ROWCROP [0]

☐☐	CONSERVATION TILLAGE [1]
☒☒	URBAN OR INDUSTRIAL [0]
☐☐	MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 2 *Maximum 10*

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH
Check **ONE** (*ONLY!*)
- ☐ > 1m [6]
- ☒ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH
Check ONE (*Or 2 & average*)
- ☒ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY
Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ SLOW [1]
- ☐ VERY FAST [1]
- ☐ INTERSTITIAL [-1]
- ☒ FAST [1]
- ☐ INTERMITTENT [-2]
- ☐ MODERATE [1]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 7 *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]

Comments

Riffle / Run 3 *Maximum 8*

6] GRADIENT (ft/mi)
DRAINAGE AREA (39.8 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☒ HIGH - VERY HIGH [10-6]

%POOL: 0 %GLIDE: 0 %RUN: 60 %RIFFLE: 40

Gradient 8 *Maximum 10*

A] SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
- ☒ WADE
- ☐ L. LINE
- ☐ OTHER

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☐ 0.15 Km
- ☐ 0.12 Km
- ☐ OTHER

_____ meters

STAGE

1st -sample pass-	2nd
☐ HIGH	☐
☐ UP	☐
☒ NORMAL	☒
☐ LOW	☐
☐ DRY	☐

CLARITY

1st --sample pass--	2nd
☐ < 20 cm	☐
☐ 20-<40 cm	☐
☐ 40-70 cm	☐
☒ > 70 cm/ CTB	☒
☐ SECCHI DEPTH	☐

CANOPY

- ☐ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

1st pass _____ cm

2nd _____ cm

C] RECREATION

AREA DEPTH

POOL: ☐ >100ft² ☐ >3ft

Comment RE: Reach consistency/ Is reach typical of steam?, *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

Circle some & *COMMENT*

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

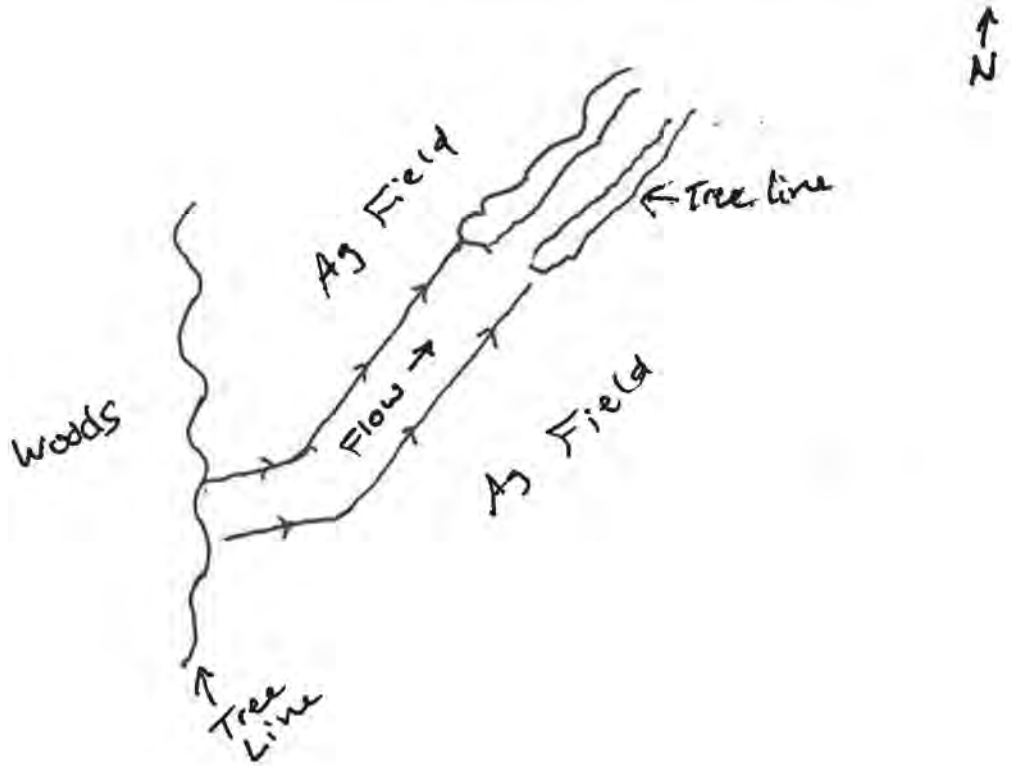
E] ISSUES

WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio
- *Legacy Tree:*

Stream Drawing:



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 54

SITE NAME/LOCATION: W. Lancaster - S. Baltimore - W. Millersport

SITE NUMBER: ST-2-PER | RIVER BASIN: | DRAINAGE AREA (mi²): 0.53

LENGTH OF STREAM REACH (ft): 75 | LAT.: 39.82879 | LONG.: -82.59313 | RIVER CODE: | RIVER MILE:

DATE: 03/27/24 | SCORER: E.Holt | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	100%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☐	CLAY or HARDPAN [0 pt]	0%
☐	GRAVEL (2-64 mm) [9 pts]	0%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	0%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0.00% (A) | 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 | **TOTAL NUMBER OF SUBSTRATE TYPES:** 1

HHEI Metric Points

Substrate Max = 40: 4

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☑ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: | **MAXIMUM POOL DEPTH (centimeters):**

Pool Depth Max = 30: 20

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☑ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: | **AVERAGE BANKFULL WIDTH (meters):**

Bankfull Width Max=30: 30

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Narrow <5m	☐	☐	Residential, Park, New Field	☑	☑	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☐ 0.5
- ☑ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: **Baltimore** NRCS Soil Map Page: **2** NRCS Soil Map Stream Order _____

County: **Fairfield** Township / City: **Baltimore**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **03/26/24** Quantity: **0.03**

Photograph Information: _____

Elevated Turbidity? (Y/N): **N** Canopy (% open): **100%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): **Y** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

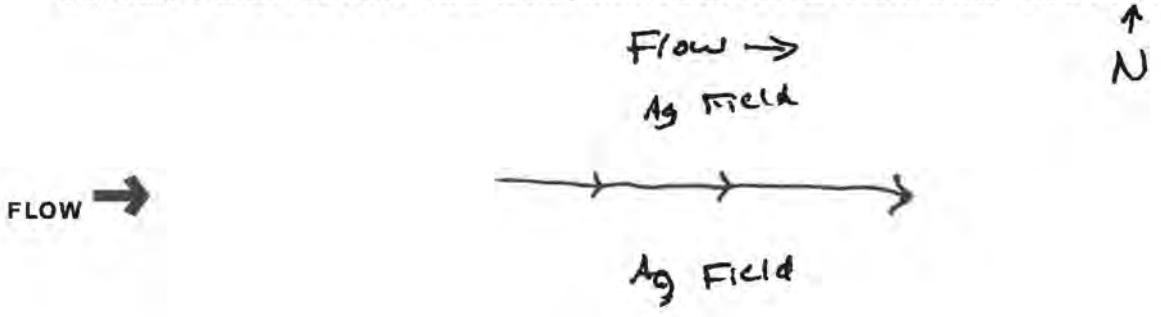
Fish Observed? (Y/N) **Y** Voucher? (Y/N) **Y** Salamanders Observed? (Y/N) **Y** Voucher? (Y/N) **Y**

Frogs or Tadpoles Observed? (Y/N) **Y** Voucher? (Y/N) **Y** Aquatic Macroinvertebrates Observed? (Y/N) **Y** Voucher? (Y/N) **Y**

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



Save as ... Reset Form

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **52**

SITE NAME/LOCATION: **W. Lancaster - S. Baltimore - W. Millersport**

SITE NUMBER: **ST-68-INT** RIVER BASIN: **Walnut Creek** DRAINAGE AREA (mi^2): **0.38**

LENGTH OF STREAM REACH (ft): **210** LAT.: **39.82183** LONG.: **-82.59785** RIVER CODE: **EPH** RIVER MILE: **N/A**

DATE: **03/27/24** SCORER: **L. Vine** COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	30%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	10%	☑	CLAY or HARDPAN [0 pt]	0%
☐	GRAVEL (2-64 mm) [9 pts]	40%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	20%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: **10.00%** (A)

Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **3** **TOTAL NUMBER OF SUBSTRATE TYPES:** **4**

HHEI Metric Points

Substrate Max = 40

7

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	> 5 cm - 10 cm [15 pts]
☑	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5 pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0 pts]

Pool Depth Max = 30

30

COMMENTS: **MAXIMUM POOL DEPTH (centimeters):** **20**

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

☐	> 4.0 meters (> 13') [30 pts]	☑	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (<=3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		

Bankfull Width Max=30

15

COMMENTS: **AVERAGE BANKFULL WIDTH (meters):** **2.00**

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☑	☑	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐ Stream Flowing
☐ Subsurface flow with isolated pools (Interstitial)
☑ Moist Channel, isolated pools, no flow (Intermittent)
☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

☐ None	☐ 1.0	☑ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >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: **Walnut Creek** Distance from Evaluated Stream **0.69**

☐ 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: **Baltimore** NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: **Fairfield** Township / City: **Baltimore**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **03/26/24** Quantity: **0.03**

Photograph Information: _____

Elevated Turbidity? (Y/N): **Y** Canopy (% open): **100%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**

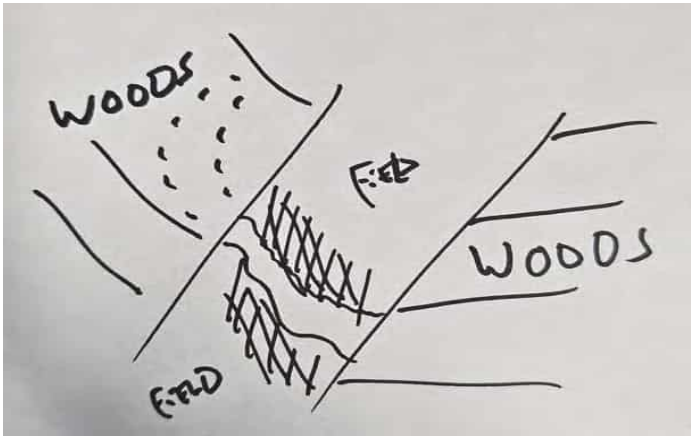
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →



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Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **37**

SITE NAME/LOCATION: **W. Lancaster - S. Baltimore - W. Millersport**

SITE NUMBER: **ST-63-INT** RIVER BASIN: **Walnut Creek** DRAINAGE AREA (mi^2): **0.00**

LENGTH OF STREAM REACH (ft): **153** LAT.: **39.81450** LONG.: **-82.60525** RIVER CODE: **EPH** RIVER MILE: **N/A**

DATE: **03/27/24** SCORER: **L. Vine** COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	100%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☐	CLAY or HARDPAN [0 pt]	0%
☐	GRAVEL (2-64 mm) [9 pts]	0%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	0%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: **0.00%** (A) Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **6** **TOTAL NUMBER OF SUBSTRATE TYPES:** **1**

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☑	> 5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5 pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: **MAXIMUM POOL DEPTH (centimeters):** **20**

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

☐	> 4.0 meters (> 13') [30 pts]	☑	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (<=3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		

COMMENTS: **AVERAGE BANKFULL WIDTH (meters):** **2.00**

HHEI Metric Points

Substrate Max = 40: **7** (A + B)

Pool Depth Max = 30: **15**

Bankfull Width Max=30: **15**

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	Conservation Tillage
☐	☐	Moderate 5-10m	☑	☑	Immature Forest, Shrub or Old Field	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	Open Pasture, Row Crop
☑	☑	None	☐	☐	Fenced Pasture	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐ Stream Flowing
☐ Subsurface flow with isolated pools (Interstitial)
☑ Moist Channel, isolated pools, no flow (Intermittent)
☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

☐ None ☐ 0.5 ☐ 1.0 ☐ 1.5 ☑ 2.0 ☐ 2.5 ☐ 3.0 ☐ >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: **Walnut Creek** Distance from Evaluated Stream **0.69**

☐ 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: **Baltimore** NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: **Fairfield** Township / City: **Baltimore**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **03/26/24** Quantity: **0.03**

Photograph Information: _____

Elevated Turbidity? (Y/N): **Y** Canopy (% open): **100%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**

Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

Save as pdf Reset Form

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 65

SITE NAME/LOCATION: W. Lancaster - S. Baltimore - W. Millersport

SITE NUMBER: ST-55-INT | RIVER BASIN: | DRAINAGE AREA (mi²): 0.24

LENGTH OF STREAM REACH (ft): 145 | LAT.: 39.80056 | LONG.: -82.61736 | RIVER CODE: | RIVER MILE:

DATE: 03/27/24 | SCORER: Nathan Barne | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]	0%	☐☐	SILT [3 pt]	0%
☐☐	BOULDER (>256 mm) [16 pts]	0%	☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐☐	BEDROCK [16 pt]	0%	☐☐	FINE DETRITUS [3 pts]	0%
☐☐	COBBLE (65-256 mm) [12 pts]	5%	☑☐	CLAY or HARDPAN [0 pt]	60%
☐☐	GRAVEL (2-64 mm) [9 pts]	15%	☐☐	MUCK [0 pts]	0%
☐☑	SAND (<2 mm) [6 pts]	20%	☐☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 5.00% (A) | Substrate Percentage Chec: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 | **TOTAL NUMBER OF SUBSTRATE TYPES:** 4

HHEI Metric Points

Substrate Max = 40: 10

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: | **MAXIMUM POOL DEPTH (centimeters):** 15

Pool Depth Max = 30: 25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☑ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: | **AVERAGE BANKFULL WIDTH (meters):** 6.67

Bankfull Width Max=30: 30

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☑	☑	Open Pasture, Row Crop
☑	☑	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☑ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Lancaster

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.30

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 0%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

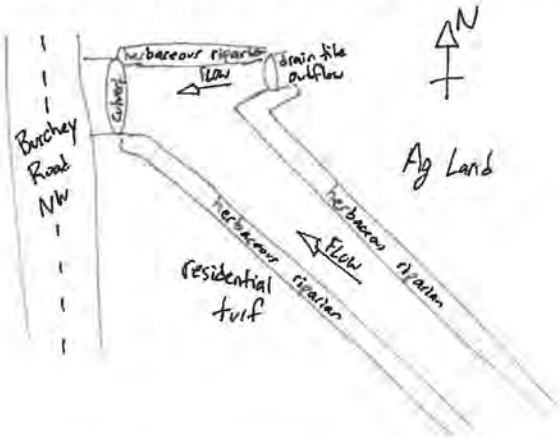
Comments Regarding Biology: _____

Not assessed

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

FLOW ➔



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Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 79

SITE NAME/LOCATION: W. Lancaster - S. Baltimore - W. Millersport

SITE NUMBER: ST-53-INT | RIVER BASIN: | DRAINAGE AREA (mi²): 0.30

LENGTH OF STREAM REACH (ft): 170 | LAT.: 39.79897 | LONG.: -82.61860 | RIVER CODE: | RIVER MILE:

DATE: 03/27/24 | SCORER: Nathan Barn | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☑ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	0%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☑	COBBLE (65-256 mm) [12 pts]	30%	☐	CLAY or HARDPAN [0 pt]	0%
☐	GRAVEL (2-64 mm) [9 pts]	40%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	30%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 30.00% (A) | Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 | **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

HHEI Metric Points

Substrate Max = 40: 24

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: | **MAXIMUM POOL DEPTH (centimeters):** 15

Pool Depth Max = 30: 25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☑ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: | **AVERAGE BANKFULL WIDTH (meters):** 5.00

Bankfull Width Max=30: 30

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Narrow <5m	☑	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☑ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Lancaster

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.30

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

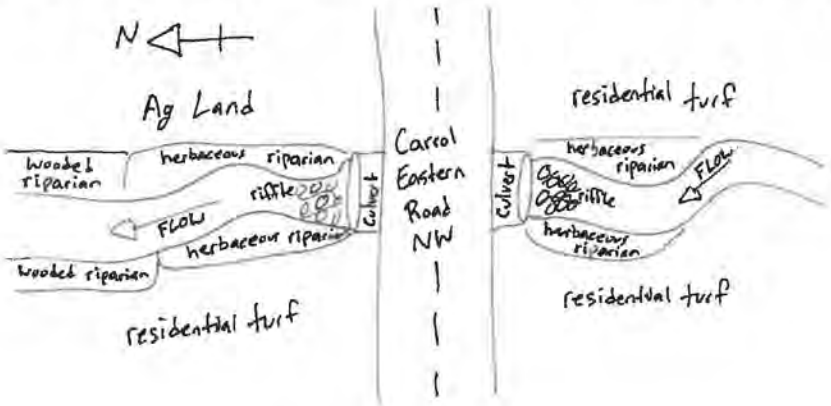
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →



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OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 37

SITE NAME/LOCATION: W. Lancaster - S. Baltimore - W. Millersport

SITE NUMBER: ST-48-EPH | RIVER BASIN: | DRAINAGE AREA (mi²): 0.27

LENGTH OF STREAM REACH (ft): 115 | LAT. 39.78862 | LONG. -82.62272 | RIVER CODE: | RIVER MILE:

DATE: 03/27/24 | SCORER: Nathan Barn | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☑ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. **SUBSTRATE (Estimate percent of every type of substrate present.** Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]	0%	☐☑	SILT [3 pt]	35%
☐☐	BOULDER (>256 mm) [16 pts]	0%	☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	5%
☐☐	BEDROCK [16 pt]	0%	☐☐	FINE DETRITUS [3 pts]	10%
☐☐	COBBLE (65-256 mm) [12 pts]	0%	☑☐	CLAY or HARDPAN [0 pt]	50%
☐☐	GRAVEL (2-64 mm) [9 pts]	0%	☐☐	MUCK [0 pts]	0%
☐☐	SAND (<2 mm) [6 pts]	0%	☐☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0.00% (A)

Substrate Percentage Chec: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3

TOTAL NUMBER OF SUBSTRATE TYPES: 4

HHEI Metric Points

Substrate Max = 40: 7

A + B

2. **Maximum Pool Depth** ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: | **MAXIMUM POOL DEPTH (centimeters):** 15

Pool Depth Max = 30: 25

3. **BANK FULL WIDTH (Measured as the average of 3-4 measurements)** **(Check *ONLY* one box):**

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☑ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: | **AVERAGE BANKFULL WIDTH (meters):** 0.33

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☑	Moderate 5-10m	☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☑ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☑ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Lancaster

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.30

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

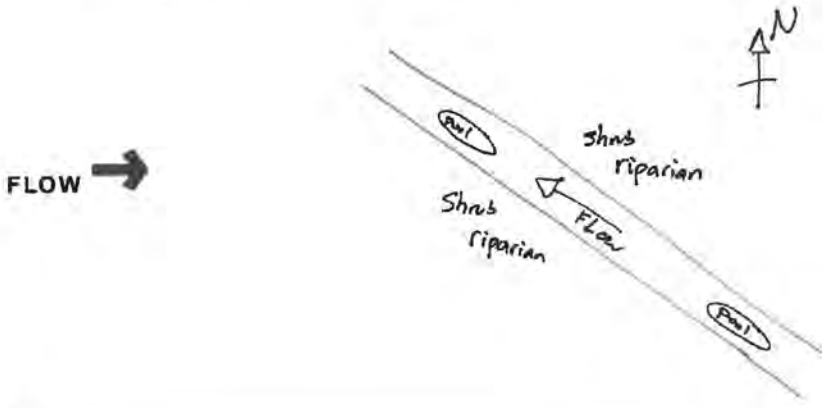
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

No biotic evaluation conducted

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



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OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 55

SITE NAME/LOCATION: W. Lancaster - S. Baltimore - W. Millersport

SITE NUMBER: ST-44-INT | RIVER BASIN: | DRAINAGE AREA (mi²): 0.15

LENGTH OF STREAM REACH (ft): 100 | LAT.: 39.78067 | LONG.: -82.62624 | RIVER CODE: | RIVER MILE:

DATE: 03/27/24 | SCORER: Nathan Barng | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	10%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☑	COBBLE (65-256 mm) [12 pts]	30%	☐	CLAY or HARDPAN [0 pt]	0%
☑	GRAVEL (2-64 mm) [9 pts]	30%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	30%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 30.00% (A) | 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 | **TOTAL NUMBER OF SUBSTRATE TYPES:** 4

HHEI Metric Points

Substrate Max = 40: 25

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☑ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: | **MAXIMUM POOL DEPTH (centimeters):** 8

Pool Depth Max = 30: 15

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☑ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: | **AVERAGE BANKFULL WIDTH (meters):** 1.20

Bankfull Width Max=30: 15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH L	R	(Per Bank)	FLOODPLAIN QUALITY L	R	(Most Predominant per Bank)	L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Narrow <5m	☑	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☑ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Lancaster

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.30

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 90%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

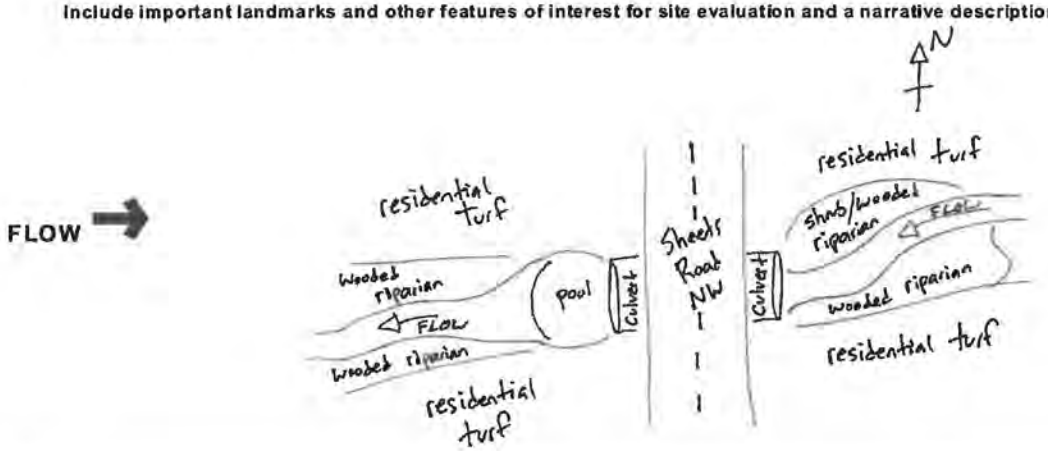
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

No biotic evaluation conducted

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



Save as pdf Reset Form

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **27**

SITE NAME/LOCATION: **W. Lancaster - S. Baltimore - W. Millersport**

SITE NUMBER: **ST-44-EPH** RIVER BASIN: **Hocking** DRAINAGE AREA (mi^2): **0.32**

LENGTH OF STREAM REACH (ft): **221** LAT.: **39.77551** LONG.: **-82.62766** RIVER CODE: **EPH** RIVER MILE: **N/A**

DATE: **03/27/24** SCORER: **L. Vine** COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	100%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☐	CLAY or HARDPAN [0 pt]	0%
☐	GRAVEL (2-64 mm) [9 pts]	0%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	0%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: **0.00%** (A) Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **6** **TOTAL NUMBER OF SUBSTRATE TYPES:** **1**

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☑	> 5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5 pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: **MAXIMUM POOL DEPTH (centimeters):** **20**

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☑	≤ 1.0 m (<=3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		

COMMENTS: **AVERAGE BANKFULL WIDTH (meters):** **2.00**

HHEI Metric Points

Substrate Max = 40: **7** (A + B)

Pool Depth Max = 30: **15**

Bankfull Width Max=30: **5**

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☑	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☑	☑	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐	Stream Flowing	☑	Moist Channel, isolated pools, no flow (Intermittent)
☐	Subsurface flow with isolated pools (Interstitial)	☐	Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

☐	None	☐	1.0	☐	2.0	☐	3.0
☑	0.5	☐	1.5	☐	2.5	☐	>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: **Hocking River** Distance from Evaluated Stream **2.50**

☐ 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: **Carroll** NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: **Fairfield** Township / City: **Dumontville**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **03/26/24** Quantity: **0.03**

Photograph Information: _____

Elevated Turbidity? (Y/N): **Y** Canopy (% open): **0%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**

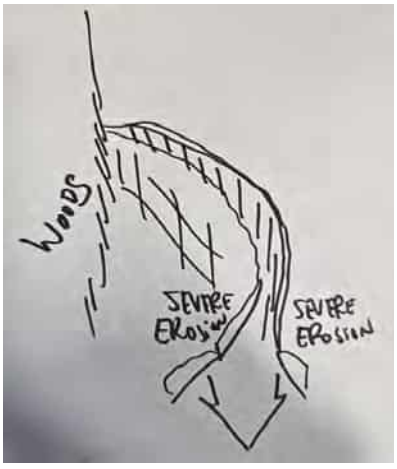
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →



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Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **63**

SITE NAME/LOCATION: **W. Lancaster - S. Baltimore - W. Millersport**

SITE NUMBER: **ST-42-INT** RIVER BASIN: **Hocking** DRAINAGE AREA (mi^2): **0.68**

LENGTH OF STREAM REACH (ft): **241** LAT.: **39.77506** LONG.: **-82.62789** RIVER CODE: **INT** RIVER MILE: **<1**

DATE: **03/27/24** SCORER: **L. Vine** COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	30%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☐	CLAY or HARDPAN [0 pt]	0%
☑	GRAVEL (2-64 mm) [9 pts]	40%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	30%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: **0.00%** (A)

Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15** **TOTAL NUMBER OF SUBSTRATE TYPES:** **3**

HHEI Metric Points

Substrate Max = 40

18

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	> 5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5 pts]
☑	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: **MAXIMUM POOL DEPTH (centimeters):** **20**

Pool Depth Max = 30

25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (<=3' 3") [5 pts]
☑	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		

COMMENTS: **AVERAGE BANKFULL WIDTH (meters):** **2.00**

Bankfull Width Max=30

20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Narrow <5m	☑	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☑ Stream Flowing
☐ Subsurface flow with isolated pools (Interstitial)
☐ Moist Channel, isolated pools, no flow (Intermittent)
☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

☐	None	☑	1.0	☐	2.0	☐	3.0
☐	0.5	☐	1.5	☐	2.5	☐	>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: Hocking River Distance from Evaluated Stream 2.50

☐ 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: Carroll NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Dumontville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.03

Photograph Information: _____

Elevated Turbidity? (Y/N): Y Canopy (% open): 0%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

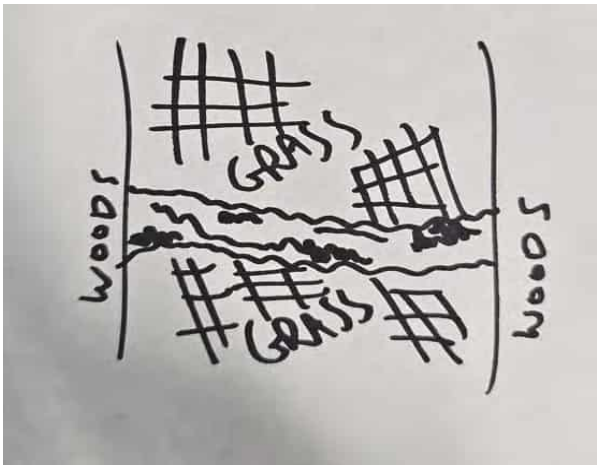
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →



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OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 56.5

Stream & Location: W. Lancaster - S. Baltimore - W. Millersport — **RM:** _ _ _._ **Date:** 3 / 28 / 24

Hocking River

Scorers Full Name & Affiliation: V3 Companies - Nathan Barnett

River Code: _ _ _ - _ _ _ - _ _ _ **STORET #:** _ _ _ _ _ _ **Lat./ Long.:** (NAD 83 - decimal °) 39 . 72957 / 82 . 63418 **Office verified location** ☐

1] SUBSTRATE

Check ***ONLY Two*** substrate *TYPE BOXES*; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐ ☐ BLDR /SLABS [10]			☐ ☐ HARDPAN [4]	10	
☐ ☐ BOULDER [9]			☐ ☐ DETRITUS [3]		
☒ ☐ COBBLE [8]	5	20	☐ ☐ MUCK [2]		
☐ ☐ GRAVEL [7]		20	☐ ☐ SILT [2]	25	
☐ ☒ SAND [6]	60	60	☐ ☐ ARTIFICIAL [0]		
☐ ☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☒ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☒ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☒ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 13 *Maximum 20*

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 (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

1 UNDERCUT BANKS [1]	2 POOLS > 70cm [2]	0 OXBOWS, BACKWATERS [1]
1 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	0 AQUATIC MACROPHYTES [1]
0 SHALLOWS (IN SLOW WATER) [1]	0 BOULDERS [1]	0 LOGS OR WOODY DEBRIS [1]
1 ROOTMATS [1]		

AMOUNT

Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☐ SPARSE 5-<25% [3]
- ☒ NEARLY ABSENT <5% [1]

Comments

Cover *Maximum 20* 9

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

Channel *Maximum 20* 13

4] BANK EROSION AND RIPARIAN ZONE

Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

EROSION (L / R)
- ☒ ☐ NONE / LITTLE [3]
- ☐ ☒ MODERATE [2]
- ☐ ☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L / R)
- ☐ ☐ WIDE > 50m [4]
- ☐ ☒ MODERATE 10-50m [3]
- ☐ ☐ NARROW 5-10m [2]
- ☒ ☐ VERY NARROW < 5m [1]
- ☐ ☐ NONE [0]

FLOOD PLAIN QUALITY (L / R)
- ☐ ☒ FOREST, SWAMP [3]
- ☐ ☐ SHRUB OR OLD FIELD [2]
- ☐ ☒ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐ ☐ FENCED PASTURE [1]
- ☒ ☐ OPEN PASTURE, ROWCROP [0]

(L / R)
- ☐ ☐ CONSERVATION TILLAGE [1]
- ☐ ☐ URBAN OR INDUSTRIAL [0]
- ☐ ☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian *Maximum 10* 6.5

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

Check **ONE** (*ONLY!*)
- ☐ > 1m [6]
- ☒ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH

Check ONE (*Or 2 & average*)
- ☒ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY

Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ SLOW [1]
- ☐ VERY FAST [1]
- ☐ INTERSTITIAL [-1]
- ☐ FAST [1]
- ☐ INTERMITTENT [-2]
- ☒ MODERATE [1]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current *Maximum 12* 7

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

Riffle / Run *Maximum 8* 5

6] GRADIENT

DRAINAGE AREA (29 mi²)

ft/mi)
- ☒ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 30 %GLIDE: 0

%RUN: 60 %RIFFLE: 10

Gradient *Maximum 10* 3

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

100 meters

CLARITY

1st --sample pass--	2nd
☐ < 20 cm	☐
☐ 20-<40 cm	☐
☒ 40-70 cm	☒
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

CANOPY

- ☐ > 85%- OPEN
- ☒ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

1st pass 1st _____ cm

2nd _____ cm

C] RECREATION AREA DEPTH

POOL: ☐ >100ft² ☐ >3ft

Comment RE: Reach consistency/ Is reach typical of steam?, *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

Circle some & *COMMENT*

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

E] ISSUES

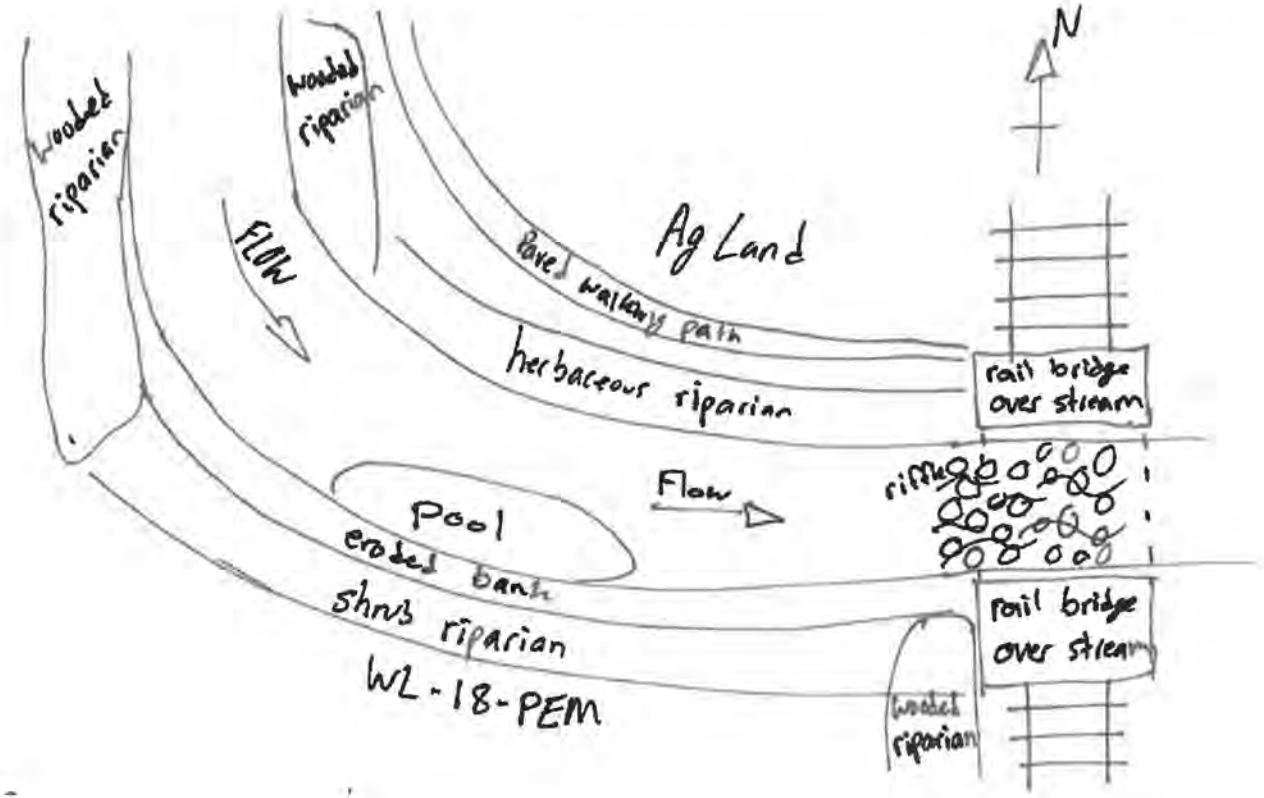
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 40.25

Stream & Location: W. Lancaster - S. Baltimore - W. Millersport ST-14-PER **RM:** ___ **Date:** 3 / 28 / 24

Scorers Full Name & Affiliation: V3 Companies - Nathan Barnett

River Code: ___ - ___ - ___ **STORET #:** ___ **Lat./ Long.:** (NAD 83 - decimal °) 39 . 72526 / 82 . 63249 **Office verified location** ☐

1] SUBSTRATE

Check *ONLY* **Two** substrate *TYPE BOXES*; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		5
☐☐ BOULDER [9]			☐☐ DETRITUS [3]		
☒☐ COBBLE [8]		30	☐☐ MUCK [2]		
☐☒ GRAVEL [7]		30	☐☐ SILT [2]		10
☐☐ SAND [6]		25	☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]			(Score natural substrates; ignore sludge from point-sources)		

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☒ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☒ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☒ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 14 *Maximum 20*

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 (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

1 UNDERCUT BANKS [1]	0 POOLS > 70cm [2]	0 OXBOWS, BACKWATERS [1]
1 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	0 AQUATIC MACROPHYTES [1]
0 SHALLOWS (IN SLOW WATER) [1]	0 BOULDERS [1]	0 LOGS OR WOODY DEBRIS [1]
1 ROOTMATS [1]		

AMOUNT Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☒ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover 7 *Maximum 20*

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

Channel 8 *Maximum 20*

4] BANK EROSION AND RIPARIAN ZONE

Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

EROSION (L / R)	RIPARIAN WIDTH (L / R)	FLOOD PLAIN QUALITY (L / R)
☐☐ NONE / LITTLE [3]	☐☐ WIDE > 50m [4]	☒☐ FOREST, SWAMP [3]
☒☐ MODERATE [2]	☐☐ MODERATE 10-50m [3]	☐☐ SHRUB OR OLD FIELD [2]
☐☒ HEAVY / SEVERE [1]	☒☐ NARROW 5-10m [2]	☐☒ RESIDENTIAL, PARK, NEW FIELD [1]
	☐☒ VERY NARROW < 5m [1]	☐☐ FENCED PASTURE [1]
	☒☒ NONE [0]	☐☐ OPEN PASTURE, ROWCROP [0]

☐☐ CONSERVATION TILLAGE [1]	
☒☒ URBAN OR INDUSTRIAL [0]	
☐☐ MINING / CONSTRUCTION [0]	

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 3.25 *Maximum 10*

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check **ONE** (*ONLY!*)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☒ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (*Or 2 & average*)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☒ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ SLOW [1]
- ☐ VERY FAST [1]
- ☐ INTERSTITIAL [-1]
- ☒ FAST [1]
- ☐ INTERMITTENT [-2]
- ☒ MODERATE [1]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 3 *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]

Comments

Riffle / Run 2 *Maximum 8*

6] GRADIENT

(ft/mi) **DRAINAGE AREA** (1.39 mi²)
- ☒ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 0 %GLIDE: 0 %RUN: 75 %RIFFLE: 25

Gradient 3 *Maximum 10*

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

50 meters

CLARITY

1st --sample pass--	2nd
☒ < 20 cm	☒
☐ 20-<40 cm	☐
☐ 40-70 cm	☐
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

1st pass _____ cm
2nd _____ cm

CANOPY
- ☒ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?, *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

C] RECREATION
AREA DEPTH
POOL: ☐ >100ft² ☐ >3ft

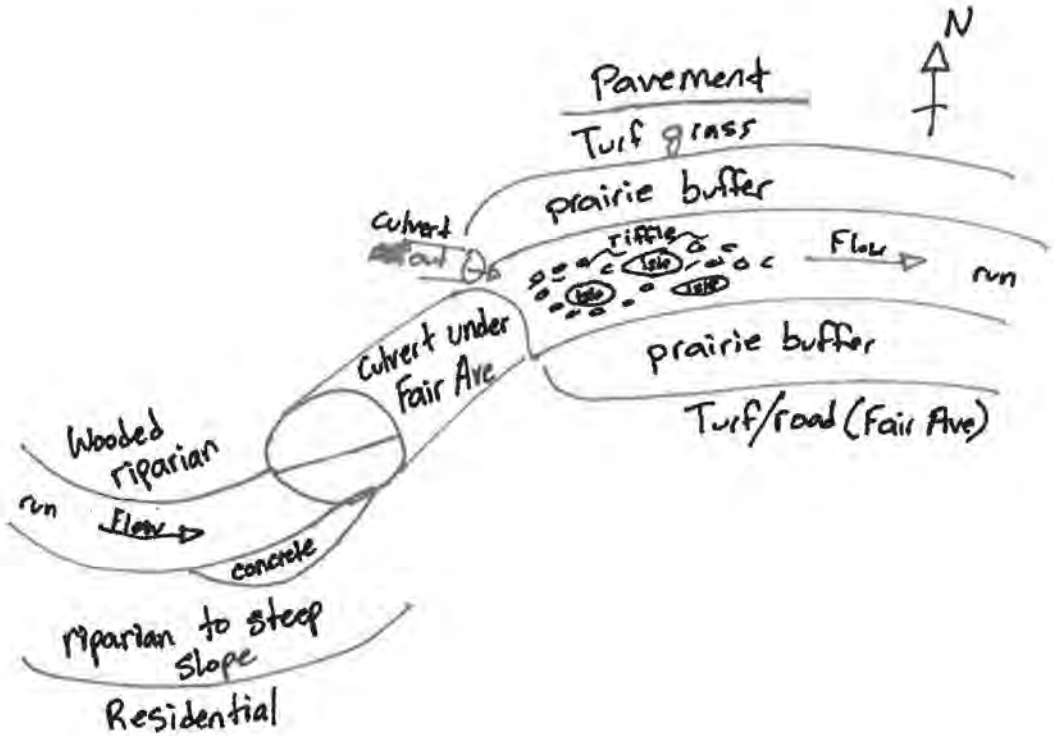
D] MAINTENANCE
Circle some & *COMMENT*

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

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 H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / (LAWN) / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS
- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio
- *Legacy Tree:*

Stream Drawing:



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 26

SITE NAME/LOCATION: W. Lancaster - S. Baltimore - W. Millersport

SITE NUMBER: ST-11-INT | RIVER BASIN: | DRAINAGE AREA (mi²): 0.06

LENGTH OF STREAM REACH (ft): 100 | LAT.: 39.71830 | LONG.: -82.63740 | RIVER CODE: | RIVER MILE:

DATE: 03/28/24 | SCORER: Nathan Barr | COMMENTS:

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	30%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pt]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☑	CLAY or HARDPAN [0 pt]	60%
☐	GRAVEL (2-64 mm) [9 pts]	0%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	10%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0.00% (A) | Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

HHEI Metric Points

Substrate Max = 40: 6

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☑ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: **MAXIMUM POOL DEPTH (centimeters):** 8

Pool Depth Max = 30: 15

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☑ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: **AVERAGE BANKFULL WIDTH (meters):** 0.75

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐ ☐ Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐ ☐ Urban or Industrial
☑	☑	Narrow <5m	☐	☑	Residential, Park, New Field	☑ ☐ Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐ ☐ Mining or Construction

COMMENTS:

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS:

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☑ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Fairfield Township / City: Lancaster

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/26/24 Quantity: 0.30

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N): Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

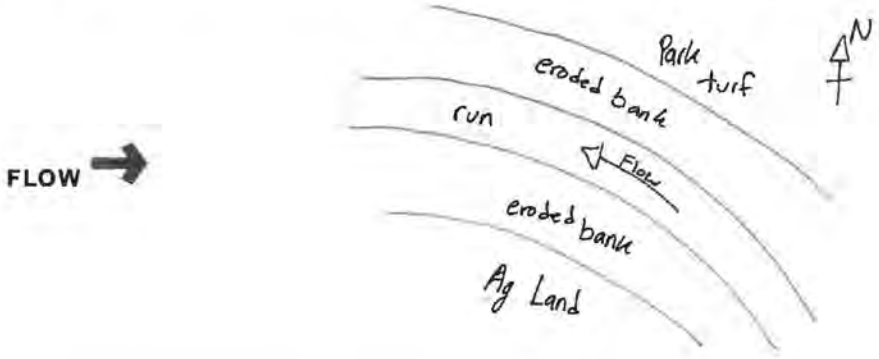
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

No biotic evaluation conducted

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



Save as pdf Reset Form

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 44

Stream & Location: W. Lancaster - S. Baltimore - W. Millersport
Hunters Run

RM: ____ **Date:** 3 / 28 / 24

Scorers Full Name & Affiliation: V3 Companies - Nathan Barnett

River Code: ___-___-___ **STORET #:** _____ **Lat./Long.:** (NAD 83 - decimal °) 39 . 7020 / 82 . 6401 **Office verified location** ☐

1] SUBSTRATE
Check **ONLY Two** substrate *TYPE BOXES*; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐ ☐ BLDR /SLABS [10]			☐ ☐ HARDPAN [4]		
☐ ☐ BOULDER [9]			☐ ☐ DETRITUS [3]		
☒ ☐ COBBLE [8]		60	☐ ☐ MUCK [2]		
☐ ☒ GRAVEL [7]		20	☐ ☐ SILT [2]		
☐ ☐ SAND [6]		20	☐ ☐ ARTIFICIAL [0]		
☐ ☐ BEDROCK [5]			(Score natural substrates; ignore sludge from point-sources)		

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☒ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☐ MODERATE [-1]
- ☒ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☒ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 16 *Maximum 20*

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 (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

- 2 UNDERCUT BANKS [1]
- 1 OVERHANGING VEGETATION [1]
- 0 SHALLOWS (IN SLOW WATER) [1]
- 1 ROOTMATS [1]
- 0 POOLS > 70cm [2]
- 1 ROOTWADS [1]
- 0 BOULDERS [1]
- 0 OXBOWS, BACKWATERS [1]
- 0 AQUATIC MACROPHYTES [1]
- 0 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☒ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover *Maximum 20* 8

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

Channel *Maximum 20* 8

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for *EACH BANK* (*Or 2 per bank & average*)
River right looking downstream

EROSION (L R)
- ☐ ☐ NONE / LITTLE [3]
- ☒ ☒ MODERATE [2]
- ☐ ☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐ ☐ WIDE > 50m [4]
- ☐ ☐ MODERATE 10-50m [3]
- ☐ ☐ NARROW 5-10m [2]
- ☒ ☒ VERY NARROW < 5m [1]
- ☐ ☐ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☐ ☐ 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]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian *Maximum 10* 3

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (*ONLY!*)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☒ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (*Or 2 & average*)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☒ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ SLOW [1]
- ☐ VERY FAST [1]
- ☐ INTERSTITIAL [-1]
- ☒ FAST [1]
- ☐ INTERMITTENT [-2]
- ☒ MODERATE [1]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current *Maximum 12* 3

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

Riffle / Run *Maximum 8* 3

6] GRADIENT
(ft/mi)

DRAINAGE AREA
(9.2 mi²)

- ☒ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 0 %GLIDE: 0
%RUN: 60 %RIFFLE: 40

Gradient *Maximum 10* 3

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

50 meters

CLARITY

1st --sample pass--	2nd
☐ < 20 cm	☐
☒ 20-<40 cm	☒
☐ 40-70 cm	☐
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

1st pass _____ cm

2nd _____ cm

CANOPY

- ☐ > 85%- OPEN
- ☒ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?, *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

C] RECREATION

POOL: AREA ☐ >100ft² DEPTH ☐ >3ft

D] MAINTENANCE

Circle some & *COMMENT*

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

E] ISSUES

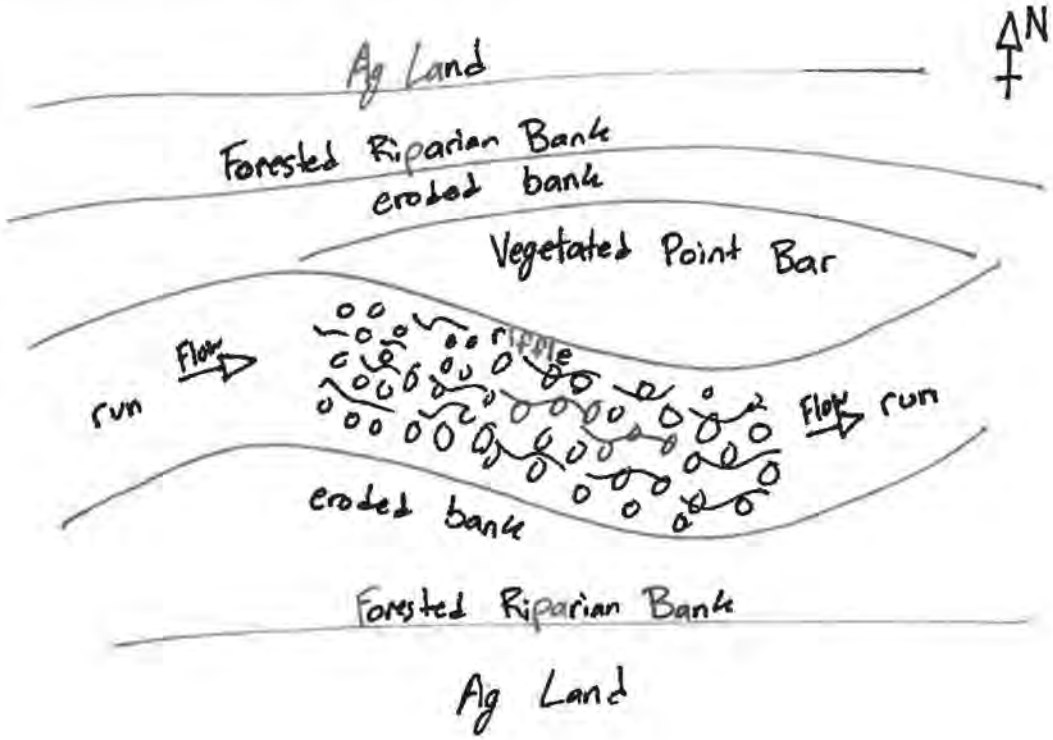
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



Appendix F FEMA Flood Insurance Rate Maps

NOTES TO USERS

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Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

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National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
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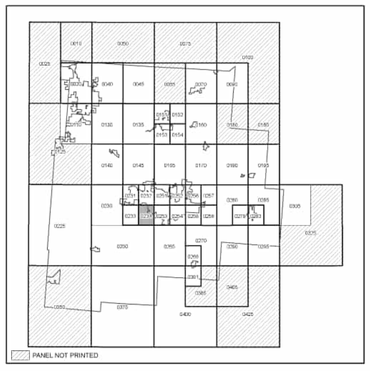
PANEL INDEX



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard may include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
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ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside of the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 10)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
85°03'45.0", 41°24'22.5"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4587000 M	1000-meter Universal Transverse Mercator grid values, zone 17
2250000 FT	5000-foot grid ticks: Ohio State Plane South Coordinate System, 5001 Zone (FIPSZONE 3402) Lambert Conformal Conic
KA0015 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
January 6, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0234G

FIRM
FLOOD INSURANCE RATE MAP
FAIRFIELD COUNTY, OHIO
AND INCORPORATED AREAS

PANEL 234 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRFIELD COUNTY	390158	0234	G
LANCASTER, CITY OF	390161	0234	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 39045C0234G

EFFECTIVE DATE JANUARY 6, 2012

Federal Emergency Management Agency

NOTES TO USERS

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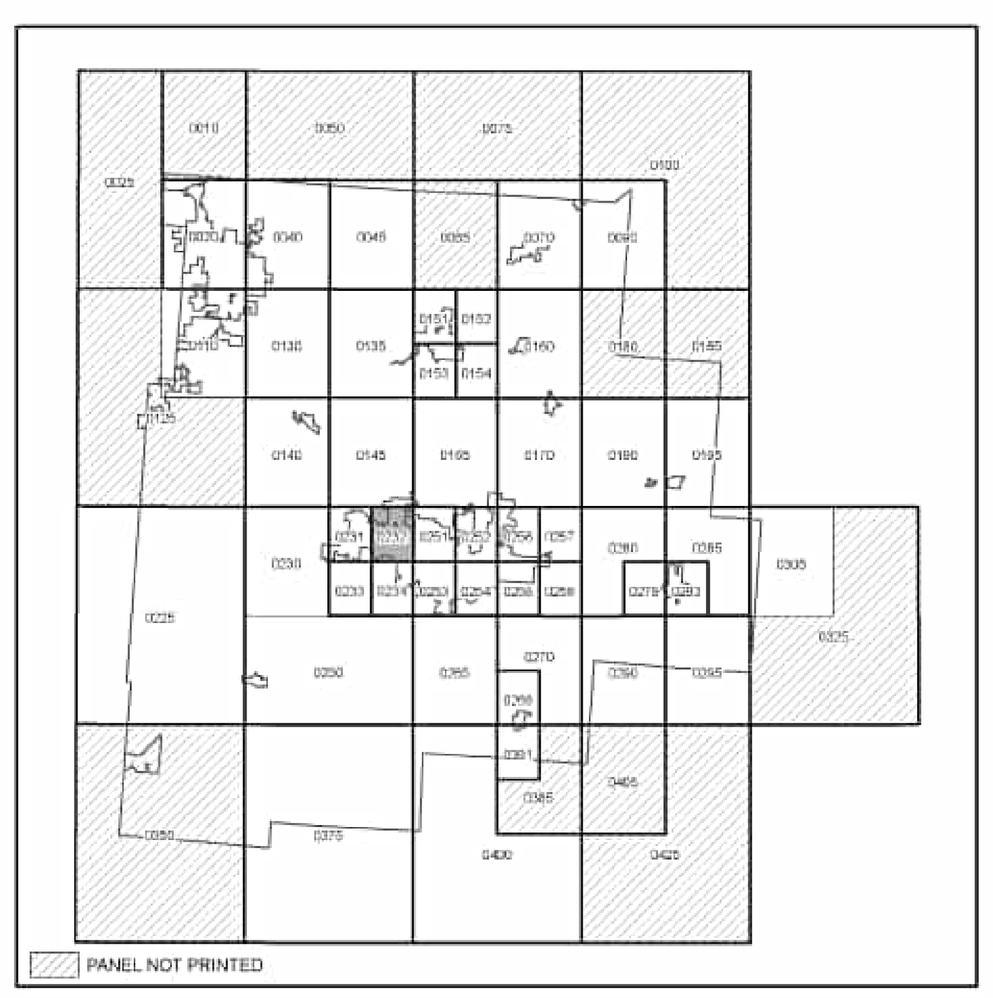
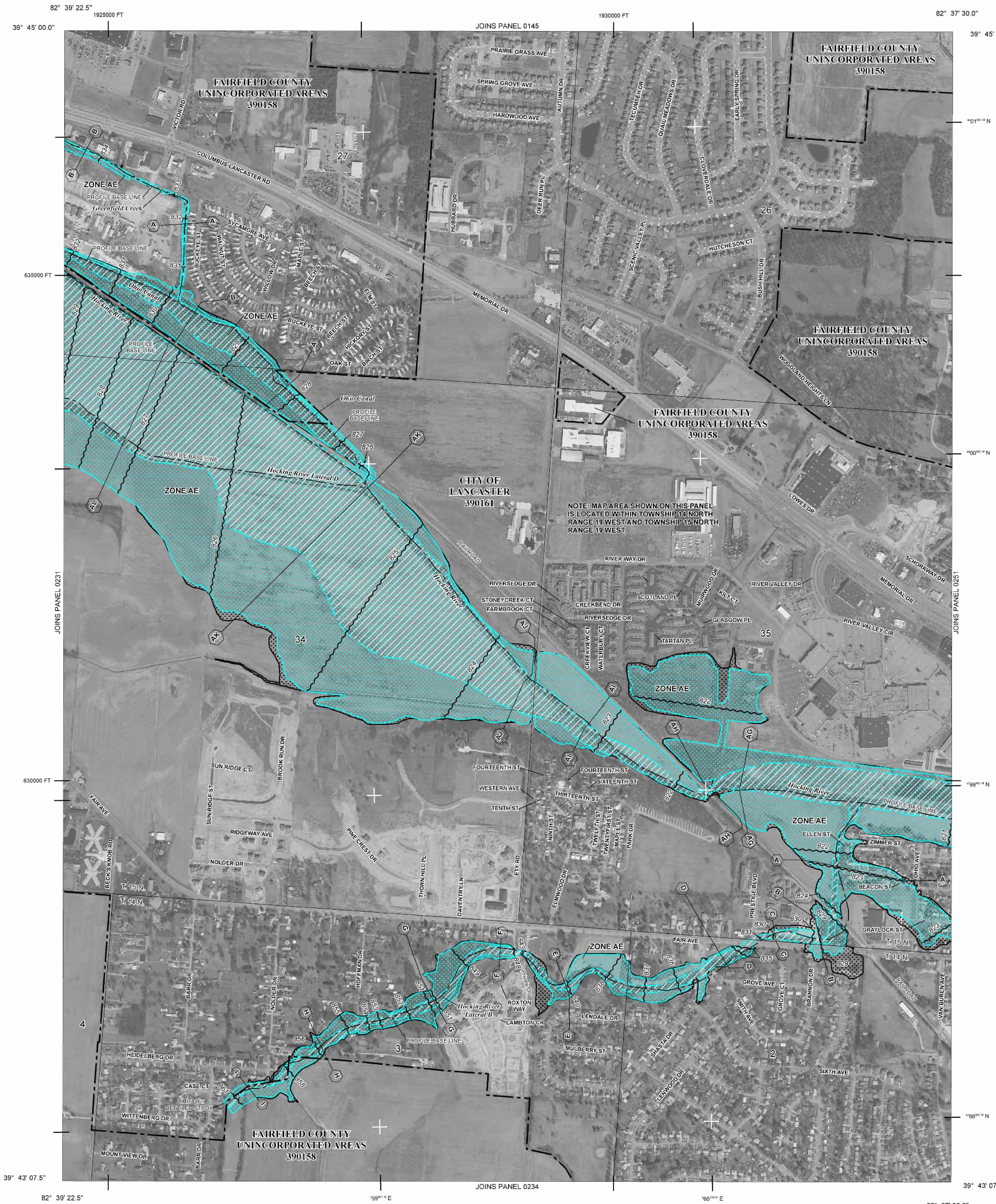
PANEL INDEX





LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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ZONE A	No Base Flood Elevations determined.
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FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

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● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
January 6, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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250 0 500 1000 FEET

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NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0232G

FIRM

FLOOD INSURANCE RATE MAP

FAIRFIELD COUNTY, OHIO

AND INCORPORATED AREAS

PANEL 232 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRFIELD COUNTY	390158	0232	G
LANCASTER, CITY OF	390161	0232	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
39045C0232G

EFFECTIVE DATE
JANUARY 6, 2012

Federal Emergency Management Agency

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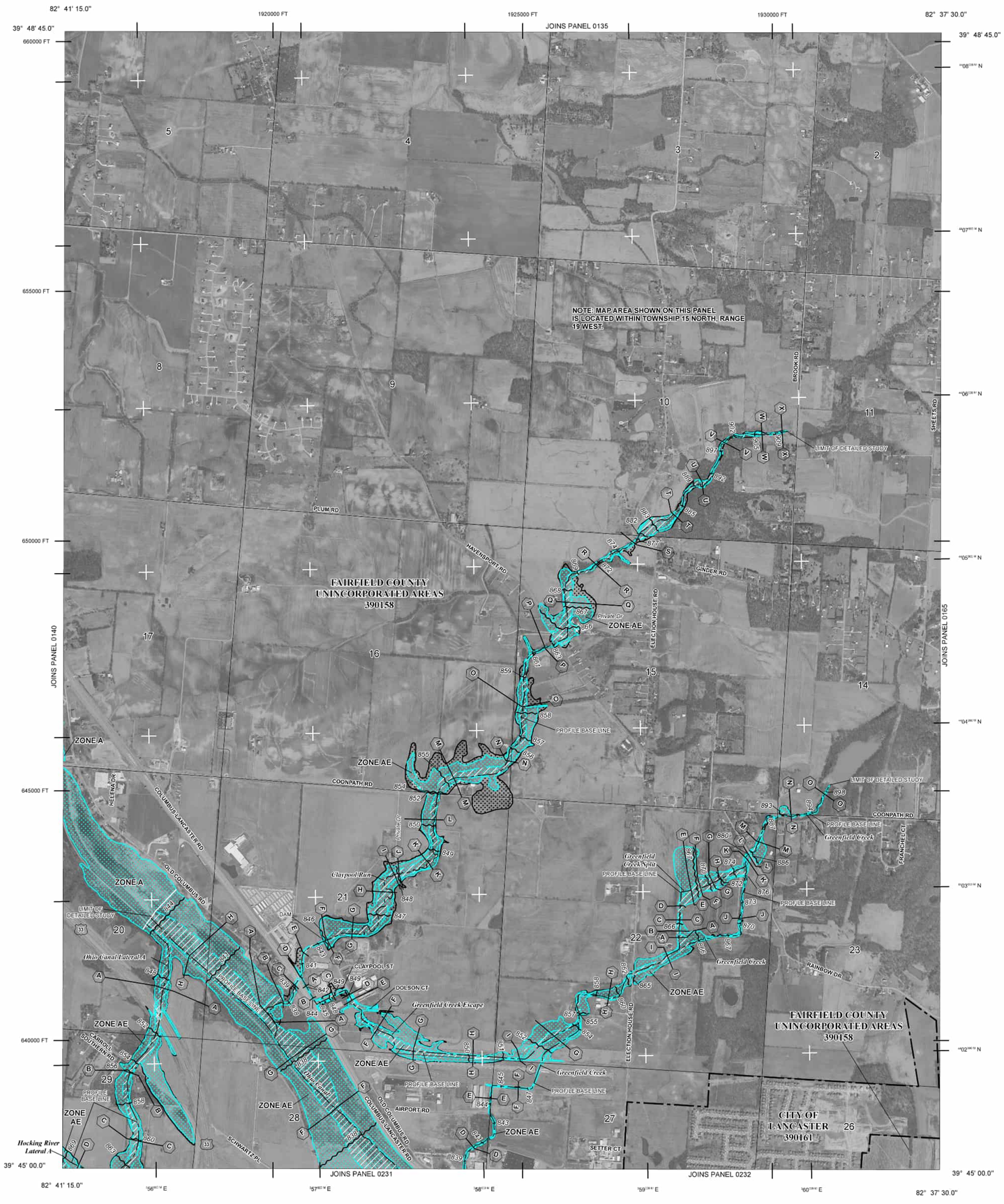
PANEL INDEX



LEGEND

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FLOODWAY AREAS IN ZONE AE

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OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

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MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
January 6, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0145G

FIRM

FLOOD INSURANCE RATE MAP

FAIRFIELD COUNTY, OHIO

AND INCORPORATED AREAS

PANEL 145 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRFIELD COUNTY	390158	0145	G
LANCASTER, CITY OF	390161	0145	G

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MAP NUMBER 39045C0145G

EFFECTIVE DATE JANUARY 6, 2012

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Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

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National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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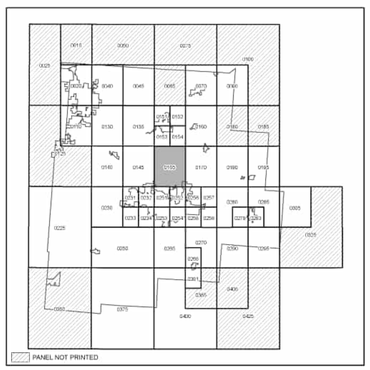
PANEL INDEX



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard may include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
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ZONE AR	Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside of the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 10)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
85° 03' 45.0", 41° 24' 22.5"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4587000 M	1000-meter Universal Transverse Mercator grid values, zone 17
2250000 FT	5000-foot grid ticks: Ohio State Plane South Coordinate System, 5001 Zone (FIPSZONE 3402) Lambert Conformal Conic
KA0015	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
January 6, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0165G

FIRM
FLOOD INSURANCE RATE MAP
FAIRFIELD COUNTY, OHIO
AND INCORPORATED AREAS

PANEL 165 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRFIELD COUNTY	390158	0165	G
LANCASTER, CITY OF	390161	0165	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
39045C0165G

EFFECTIVE DATE
JANUARY 6, 2012

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

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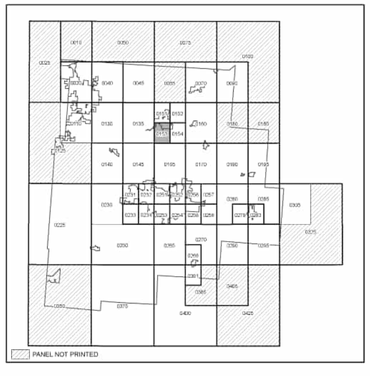
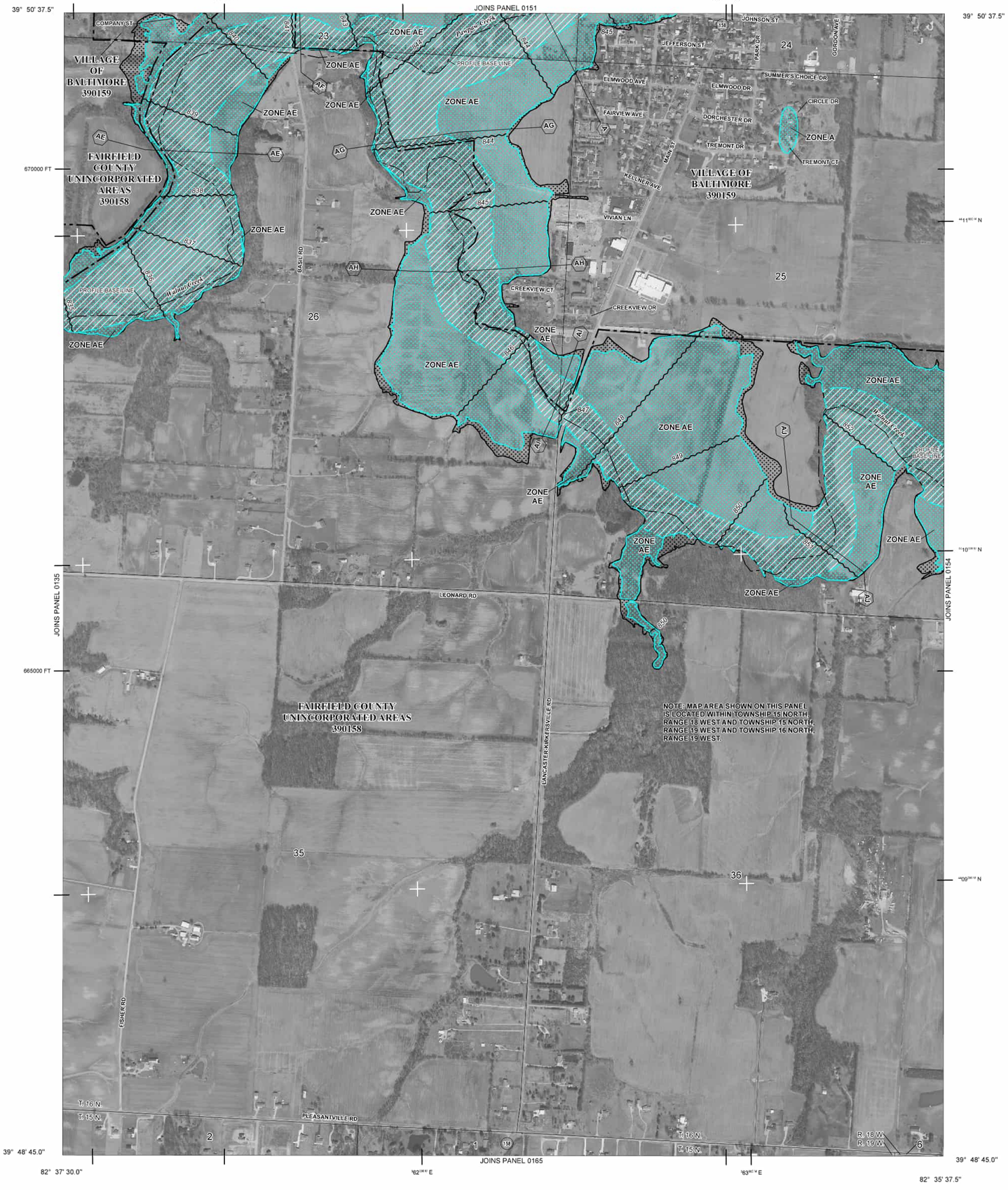
PANEL INDEX





LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

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COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

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	1% annual chance floodplain boundary
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KA0015	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
January 6, 2012
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1 " = 500 '
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0153G

FIRM

FLOOD INSURANCE RATE MAP

FAIRFIELD COUNTY, OHIO

AND INCORPORATED AREAS

PANEL 153 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BALTIMORE, VILLAGE OF	390159	0153	G
FAIRFIELD COUNTY	390158	0153	G

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MAP NUMBER
39045C0153G

EFFECTIVE DATE
JANUARY 6, 2012

Federal Emergency Management Agency

NOTES TO USERS

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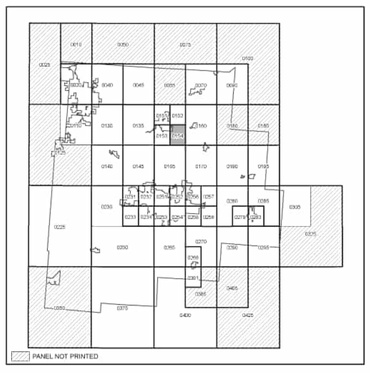

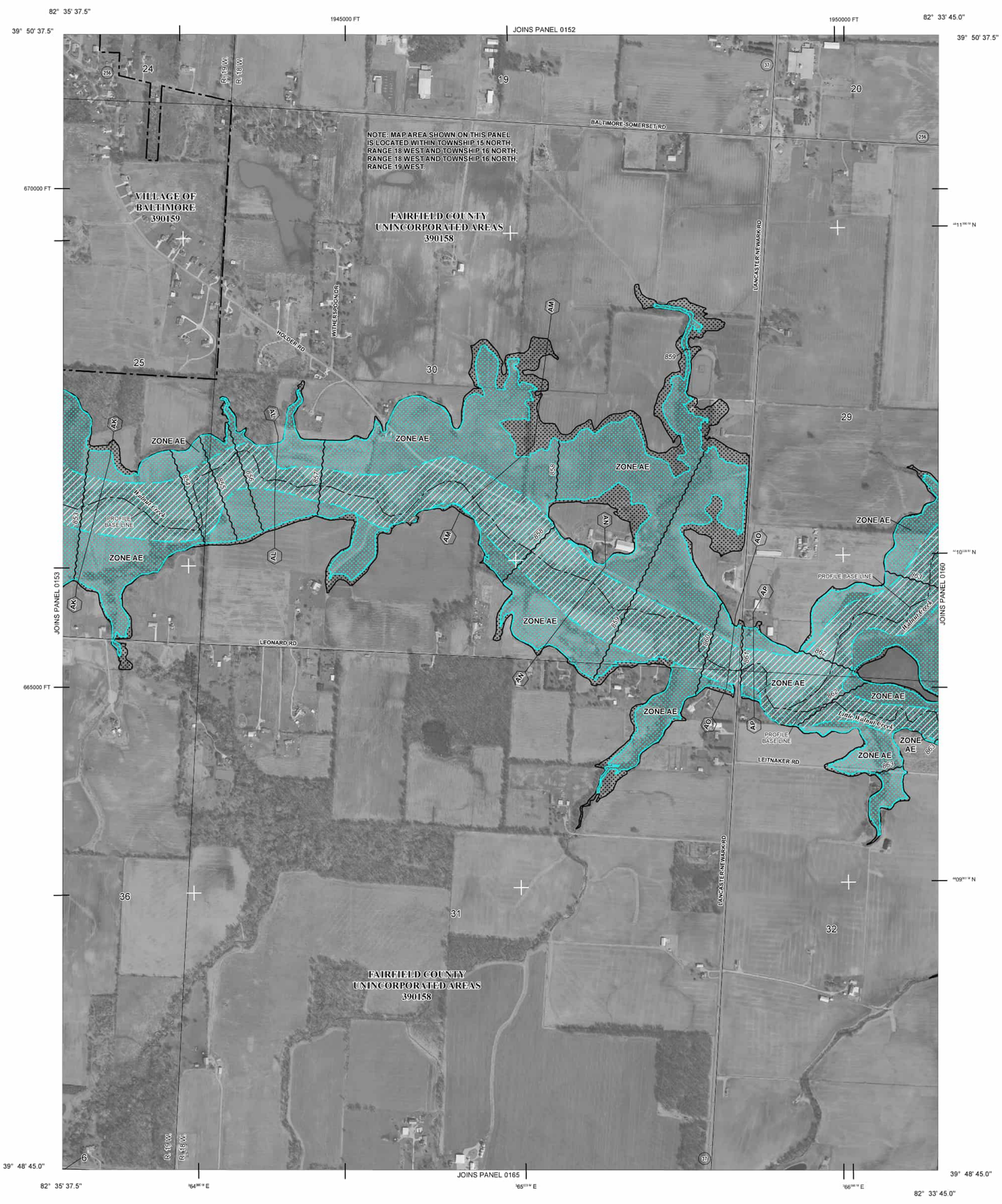

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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FLOODWAY AREAS IN ZONE AE

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OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

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MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
January 6, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 500'
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NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0154G

FIRM

FLOOD INSURANCE RATE MAP

FAIRFIELD COUNTY, OHIO

AND INCORPORATED AREAS

PANEL 154 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BALTIMORE, VILLAGE OF	390159	0154	G
FAIRFIELD COUNTY	390158	0154	G

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MAP NUMBER
39045C0154G

EFFECTIVE DATE
JANUARY 6, 2012

Federal Emergency Management Agency

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Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Ohio State Plane South Zone 5001 (FIPSZONE 3402). The **horizontal datum** was NAD83. Differences in datum, spheroid, projection or state plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information on this FIRM was provided in digital format by the Fairfield County, GIS Department. This information was produced from aerial photography dated 2006 or later.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

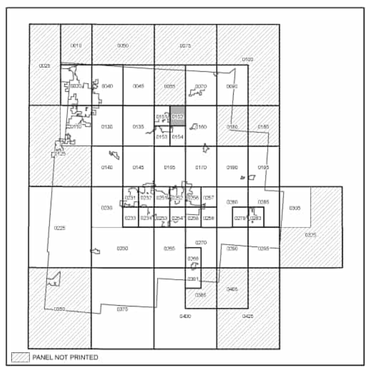
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center (MSC)** via the FEMA Map Information eXchange (FMIX) at 1-877-336-2627 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The MSC may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.

The **profile base lines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

PANEL INDEX



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100 year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard may include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside of the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 10)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
85°03'45.0", 41°24'22.5"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4587000 M	1000-meter Universal Transverse Mercator grid values, zone 17
2250000 FT	5000-foot grid ticks: Ohio State Plane South Coordinate System, 5001 Zone (FIPSZONE 3402) Lambert Conformal Conic
KA0015	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
January 6, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0152G

FIRM
FLOOD INSURANCE RATE MAP
FAIRFIELD COUNTY, OHIO
AND INCORPORATED AREAS

PANEL 152 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BALTIMORE, VILLAGE OF	390159	0152	G
FAIRFIELD COUNTY	390158	0152	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
39045C0152G

EFFECTIVE DATE
JANUARY 6, 2012

Federal Emergency Management Agency